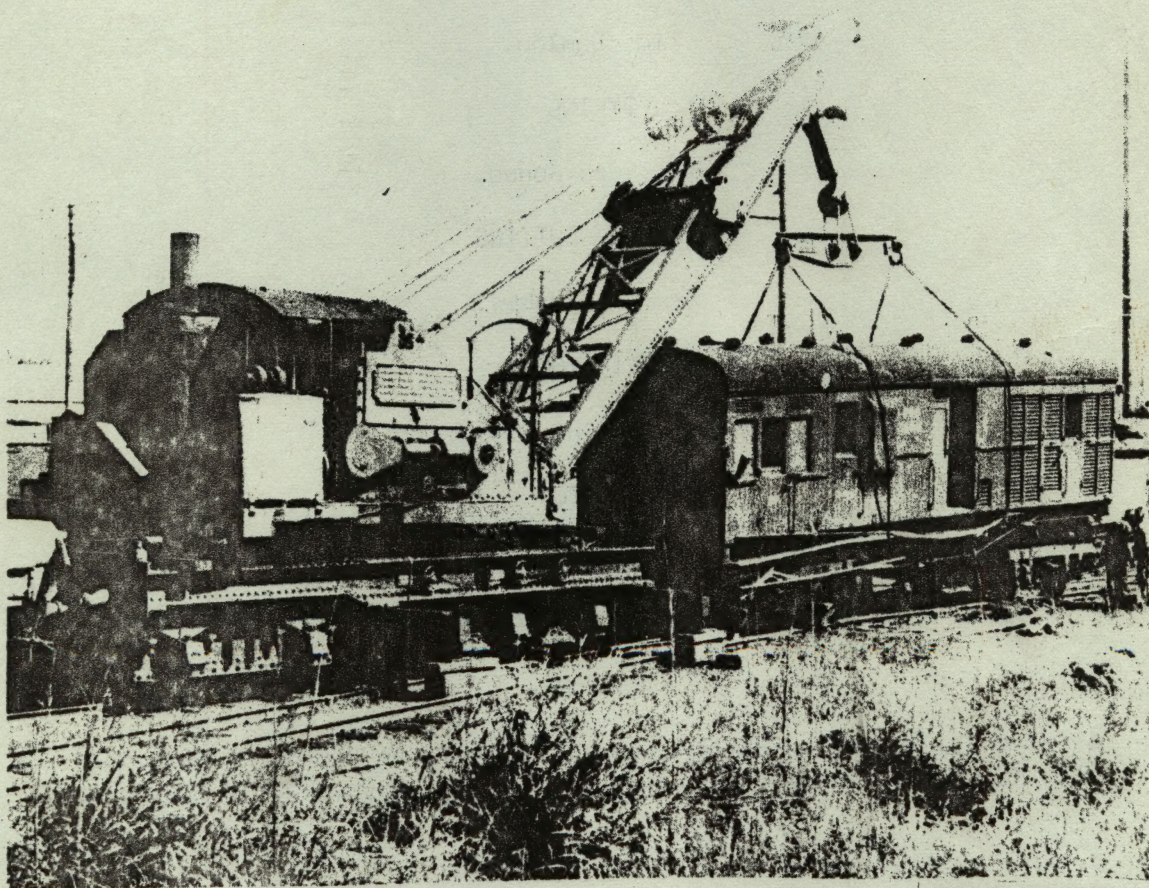


AMRA JOURNAL

ISSUE FOR
NOVEMBER
1961.



NUMBER
42

JOURNAL

of

The Australian Model Railway Association

Page 2.

Volume II No.4.

Nov., 1961

Consecutive Issue No.42.

MANAGING EDITOR

Arthur Harrold, Gympie Terrace,
Noosaville, Queensland

CO-ORDINATING EDITOR

Maurie McKinnon, 6 Caleb St.,
Bentleigh East, SE15, Vic.

ART DEPARTMENT

CONTRIBUTING ARTISTS

Jack Treseder, Frank Puls, Arthur Harrold.

HEADINGS.

Tim Dunlop.

TYPING

Mrs. Rees Jones.

STENCIL CUTTING

Mrs. J. Hobbs.

PRINTING

Tim Dunlop.

COLLATION

Jack Treseder.

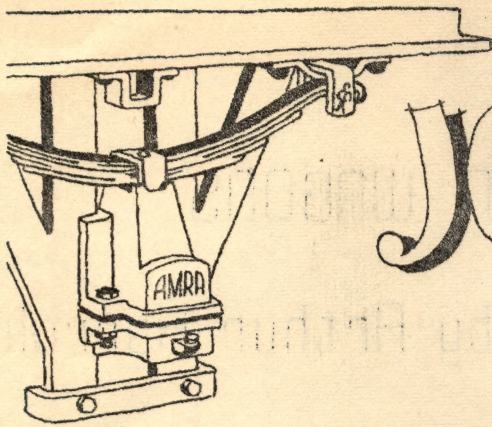
ENVELOPE ADDRESSING

Jack May

Address all A.M.R.A. correspondence, (other than "JOURNAL" material)
to the Federal Secretary, Mike Saunders, 6 Ash Grove, East Malvern, Vic.

ON THE COVER

A N.S.W.G.R. "big-hook" on the job rerailing
a PHG class van. - Photo by Harrold Warren.



Editorial JOURNAL BOX

THIS SPACE AGE

It's always the same old story; we want to build a model railway, but there's nowhere to put it. The garage would be a good place if it wasn't for the car; the verandah would be fine only Mum wants it for a sleep-out for the kids; the lounge would be just the thing - but why wreck an otherwise happy marriage? Up here in Queensland we're a bit luckier. Most of us have space under the house, protected from the weather, which is available to the first taker, and the wise Queenslander dives beneath and stakes his claim while Mum is arranging the furniture upstairs.

Down south things must be pretty grim though. It seems there are few modellers down there fortunate enough to have a room or a shed to call their own, and so we have articles from our southern members telling us how they got over their various difficulties. Alan Wilson's article, "Building a Wall Layout", was a description of how a small model railway could be hinged to the wall and let down when required; Tim Dunlop's, as yet uncompleted, "Happy Valley Railroad", gave us an account of how quite an extensive portable layout can be built in sections, spread over the house, and, when not in use, stored under the bed. In this issue Alan Dowel tells us how his garage is used to best advantage with a layout suspended from the ceiling which can be lowered for operation when opportunity permits.

Recently, your editor, as hard pressed for space as anyone, as the remarks about-sleepouts and the lounge apply equally to him, was bitten by the bug and after five years of modelling inactivity, he surveyed the scene and decided there would be room for a small portable railway under the house, so he bought himself a sheet of bondwood on which a small layout is even now taking shape. The piece of bondwood was seven feet long and four feet wide, and the equipment to be used was 'OO', which straight away produced problem number one. There was nothing for it but to use fifteen inch radius curves, and to build an industrial line, running four-wheelers only.

Other modellers having as little space, but not being tied to 'OO' or 'HO' equipment, would do well to consider 'TT' or even 'OOO'. W. & H. Models (formerly Walker & Holtzapffel) of London, now advertise an increased amount of 'OOO' material in their latest catalogue so that 9 mm gauge track and chassis components should soon be readily available. In any case, there's no need to work to 2 mm scale; the equipment could easily form the basis of an absorbing 2'0" gauge logging line or sugar tramway, with the mill at the centre and the narrow gauge lines traversing the baseboard to the scenes of production at the periphery. It's all a matter of space.

Q.G.R

4-WHEELED OPEN WAGONS

by Arthur Horrold

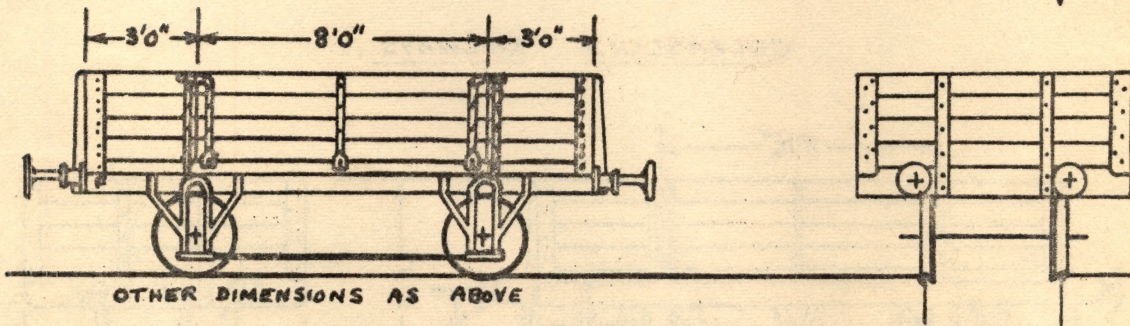
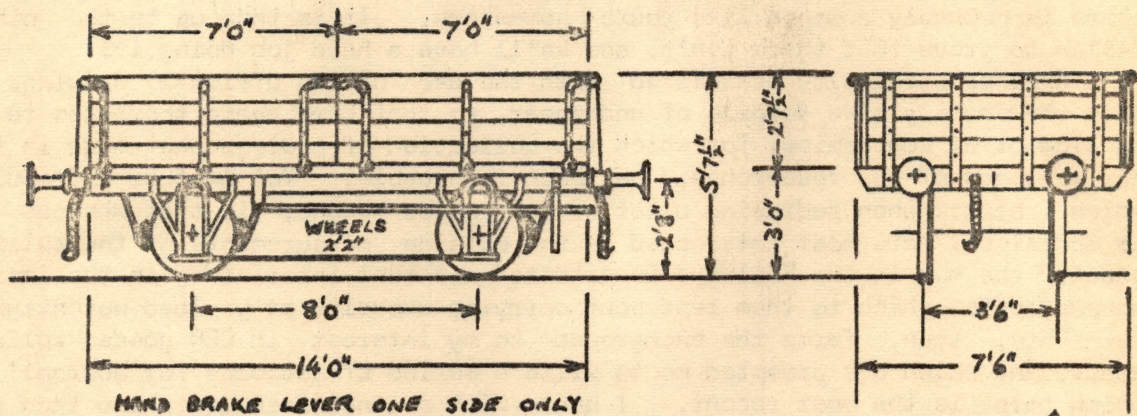
My interest in the goods rolling stock of the QGR began about six years ago when I took part in a State Branch meeting and visited the locomotive roundhouse at Ipswich. To get there we had to walk for about a mile beside tracks and sidings packed with goods wagons of all shapes and sizes. Stephen Suggit and Edgar Snowden were there too, one with his camera and the other with a tapemeasure, and before long the three of us were taking notes and photographs of as many wagons as we could lay eyes on. From that time on we used to spend Saturday afternoons similarly engaged at the goods yards at Newstead and Woolloongabba until after a while we had a nodding acquaintance with most of the wagons and an excellent collection of photographs.

At that time the modernisation programme of the QGR, which called for the introduction of standardised types of steel stock, had hardly got under way. The result was that most of our studies involved the old timber stock, and it is these that have retained my interest right to the present day. One of their fascinating characteristics is their absence of standardisation; two or more different wagons, all showing obvious differences, may carry the same code letters, while two others, looking superficially similar, may carry different letters, and it involved interesting detective work deducing just what the relationships and differences were.

The acquisition of a copy of the Commissioner's report threw a little light on the matter, and helped by providing a complete list of the wagons, but it was chiefly by a study of photographs and by the patient measurement of wheel sizes, wheel centres, wagon lengths, and other leading dimensions that the details of the scheme began to fall into place and an orderly survey of the wagons became possible. More recently, it has been possible to build up a collection of official QGR drawings which have done much to correct or add to our previous knowledge. These drawings, which are blue-prints drawn to $\frac{1}{4}$ " to the foot scale, cost about two shillings each, and it has been my custom to get each one reduced to $\frac{3}{16}$ " scale as a photostat positive from which I prepare my own 'Sn3 $\frac{1}{2}$ ' tracings. The photostatting costs about three shillings per picture, so it has obviously not been possible to get too many done at once. However, the collection is slowly increasing and the result has been a series of articles for 'Journal' which has so far been of great interest to me the writer, and which I hope has been of interest to readers.

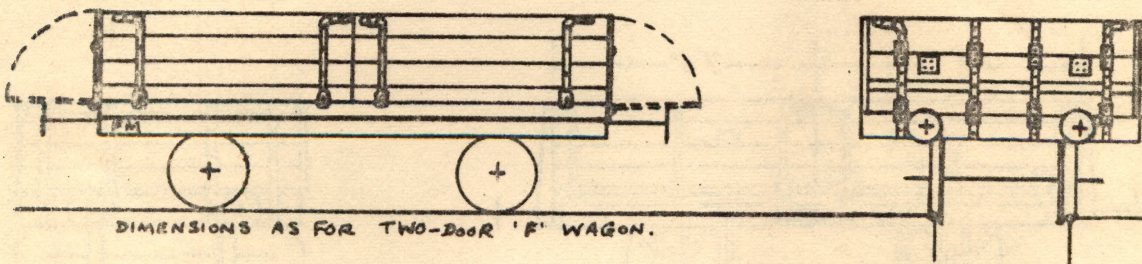
One of the main difficulties associated with the production of these drawings for 'Journal' relates to the lack of standardisation which I mentioned earlier; the result has sometimes been that I have had to pick one or two alternatives, such as a variation in length or a variation of brake gear, with

QUEENSLAND RAILWAYS.



Q.G.R. OPEN WAGONS CLASS 'F' (TWO TYPES)

COLOUR: RED OXIDE



Q.G.R. OPEN WAGON CLASS 'FM'

SCALE 3/16" = 1 FOOT

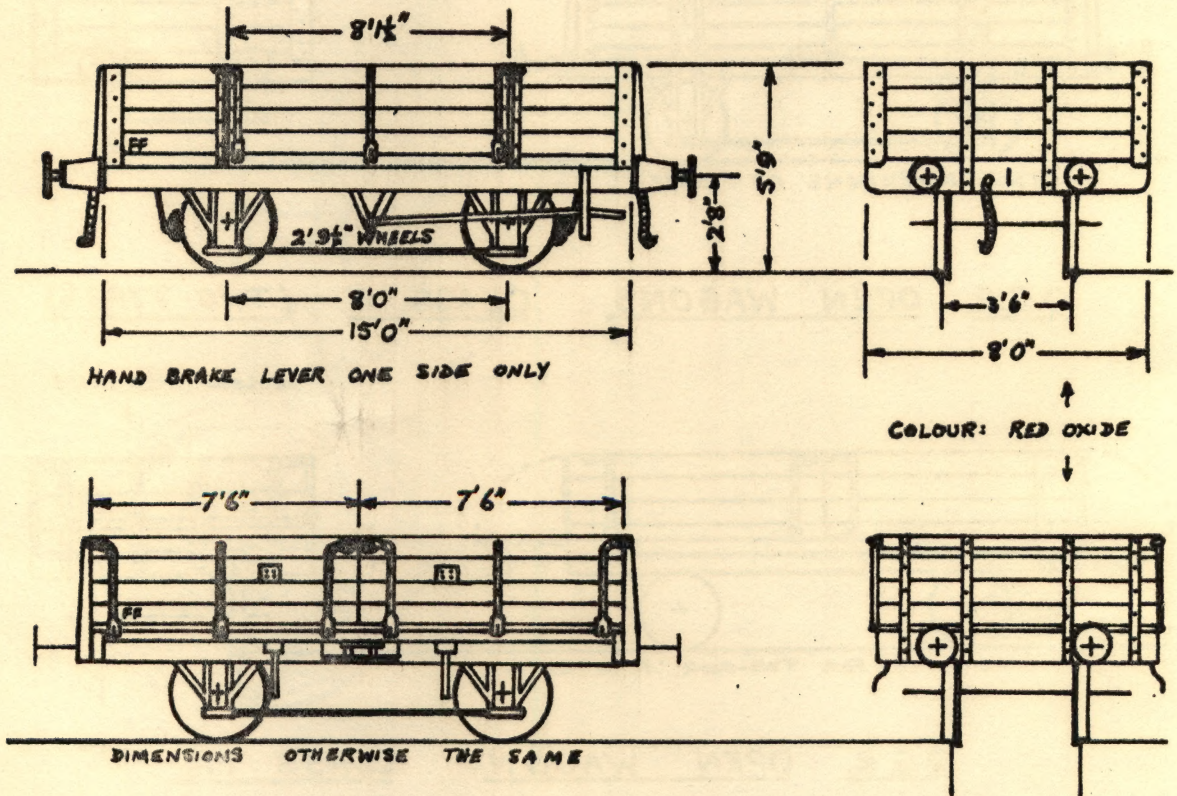
100
20/10/60

the result that the drawing is a composite, a picture of the "average wagon" which is just as non-existent as the "average man". However, with so much variation from wagon to wagon, it is probably fair to say that unless you wish to model a particular one, such as No. F12345, or whichever one it is you have chosen, you can safely build from one of these drawings and can claim that there is probably a wagon like yours somewhere. It is then up to the other fellow to prove that there isn't, and he'll have a hard job doing it!

Another difficulty associated with the use of the official drawings is that they rarely give details of undergear, so that here again there has to be an element of compromise, for which the collection of photographs made in the early stages of our researches, has been invaluable. Yet another difficulty which I struck when redrawing a set of V.R. goods wagons, is that whereas we as modellers, are most interested in the outside measurements of the rolling stock, the men in the Railways Department are most interested in the inside measurements, which to them represent carrying capacity or payload potential.

This, then, forms the background to my interest in QGR goods rolling stock, and which has prompted me to write a series of articles for 'Journal' of which this is the most recent. I began with a general survey, and then introduced constructional articles on the 'F', 'FG', 'H' and 'U' wagons, includ-

QUEENSLAND RAILWAYS .



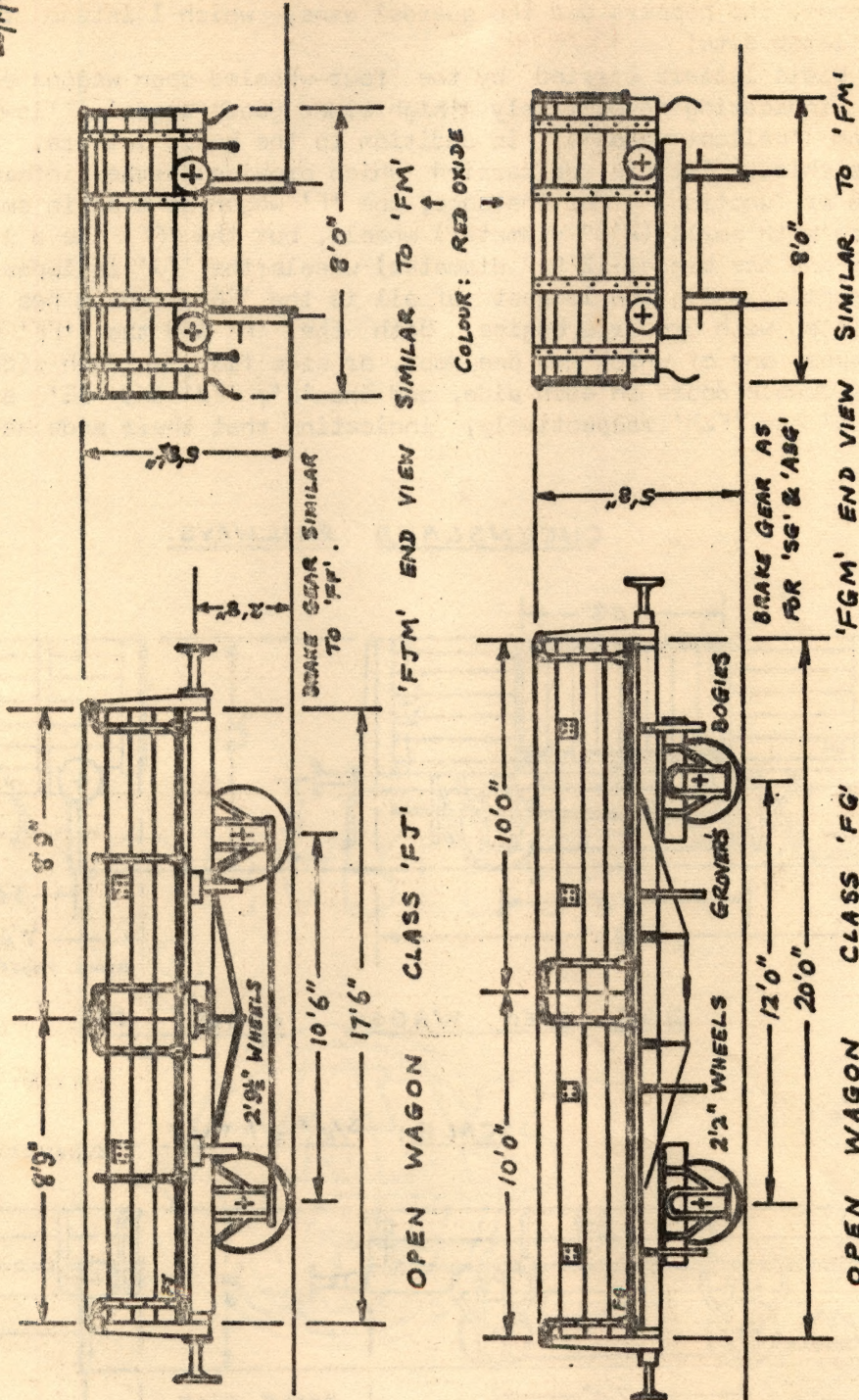
Q.G.R. OPEN WAGONS CLASS 'FF' (TWO TYPES)

SCALE $\frac{3}{16}" = 1 \text{ FOOT}$

A.G.4.
22/10/60

QUEENSLAND RAILWAYS

AGH
20/11/60

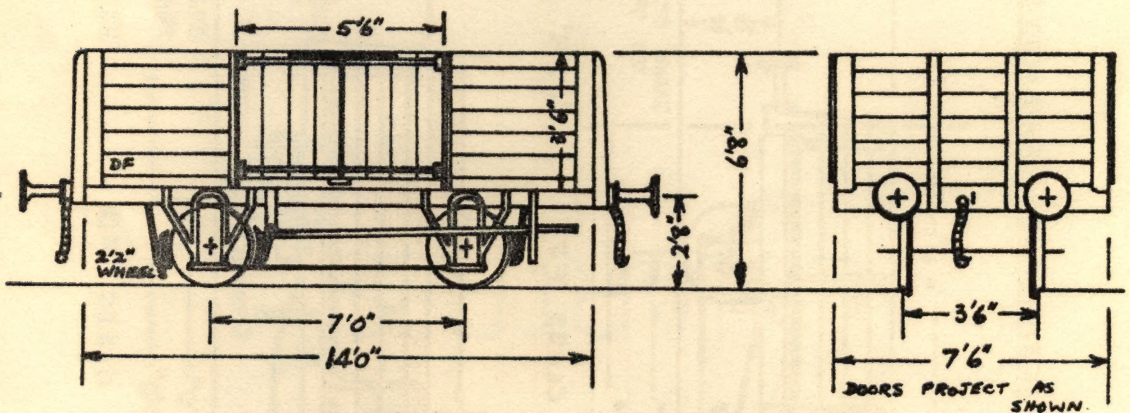


ing with the latter as many variants as possible. I then described first the timber (bolster) wagons and after that the refrigerator vans, giving a fairly comprehensive series of drawings in each case. The purpose of this article is to fill in gaps in the ranks of the four-wheeled open wagons, left when the constructional article relating to them was published. This should leave the

way clear for future articles on other natural groups of wagons, such as the stock wagons, the hoppers and the guards' vans, which I intend to inflict on you at a later date!

The basic letters carried by the four-wheeled open wagons are 'D', 'F' and 'T', indicating respectively 'high sided goods wagon', 'low sided goods wagon' and 'ballast wagon'. In addition to the basic letters, second, and sometimes third, letters are carried which provide further information as to structure or function. For instance, the 'F' wagon is a plain small capacity open wagon with small (2'2" diameter) wheels, but the 'FF' is a little longer and wider and has bigger (2'9½" diameter) wheels; the 'FJ' is longer still with large journals, while the longest of all is the 'FG', which has small wheels and is fitted with Grover's bogies. Both the 'F' and the 'FF' wagons exist as two types, one of which has one door, or side flap, on each side, while the other has double doors on each side, and the 'F', 'FJ' and 'FG' also occur as 'FM', 'FJM' and 'FGM' respectively, indicating that their ends may be lowered

QUEENSLAND RAILWAYS.



Q.G.R. OPEN WAGON CLASS 'DF'.

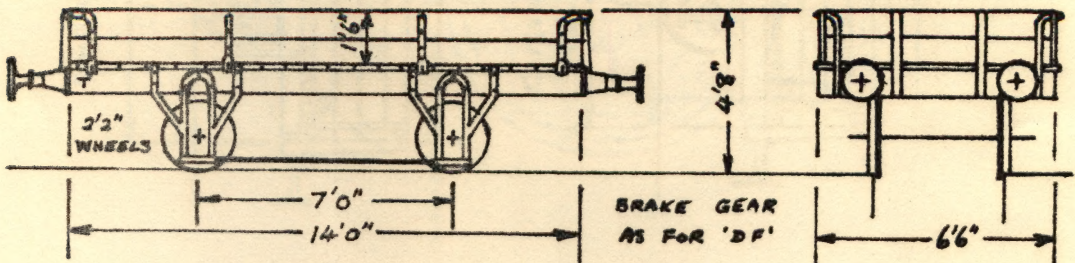
AGH

28/11/60

↑
COLOUR: RED OXIDE

SCALE: $\frac{3}{16}'' = 1 \text{ FOOT.}$

↓
COLOUR: BLACK



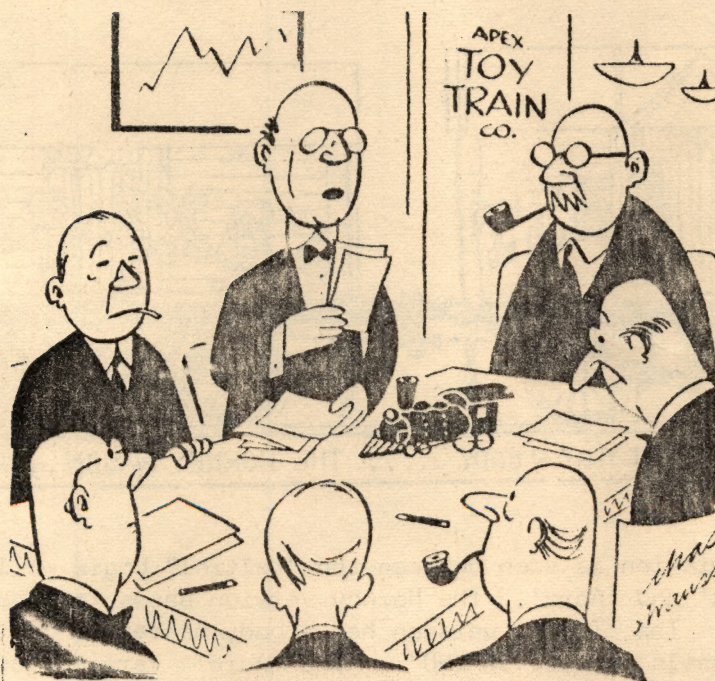
Q.G.R. OPEN BALLAST WAGON CLASS 'T'.

NOTE: A FEW 'T' WAGONS HAVE SIDES OF THREE PLANKS AND ARE PROPORTIONATELY HIGHER.

to permit end-loading for Motor vehicles. The only member of the 'D' class is the 'DF', which has two doors on each side opening outwards, like casements, instead of downwards, and which has sides composed of six planks instead of four. The 'T' wagon normally has only two-plank sides and ends, although wagons with three planks are sometimes seen. Also, a few 'T' wagons are used as "plough" wagons, whose function is to spread the ballast after it has been dropped by the preceding ones.

As with all QGR goods wagons, readers are reminded that hand brake levers occur only on one side of each wagon. In the 'F', 'FM' and 'DF' wagons they operate directly on to the wheel, but in the other wagons they operate through the air brake system. The standard coupler height for 'Sn3½' work is ½", the same as the buffer height, so couplers must traverse buffer beams in models.

Painting the wagons is easy. The 'T' wagons are black throughout and the others when they leave shops are red oxide throughout; however, the undergear does not stay long in its original colour and black undergear for the 'D' and the 'F' variants is quite suitable. Lettering is white.



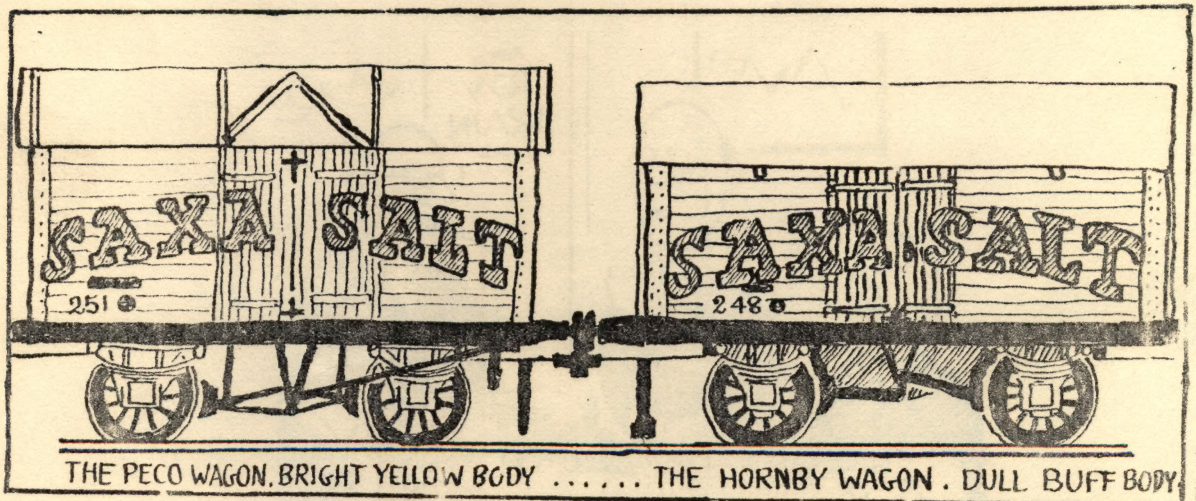
"The decision, then, is 5 to 2 in favor of our model number 16743D go 'toot-toot-toot' instead of 'too-o-o-ot-toot'."

STARTING THE LAYOUT

by Frank Puls

The Company started operations in August 1960 with the purchase of eighteen 'Hornby' wagons and eleven 'Peco' kits, followed by an O-6-O Italian tank by 'Rivarossi'. A few weeks later saw the arrival of a few pieces of 'Triang' rolling stock and after the flanges had been turned and the couplings changed, and after test runs had been made over the points they were pronounced fit to run. The most difficult 'Triang' wagons to convert were the tank wagons and the freight bogie cars. Soon more 'Hornby' stock was added, also three 'Peco' salt wagons, five 'Rex' wagons, and a 'Trix' "Weltrol".

At this point I was faced with two "Saxa Salt" wagons, one 'Hornby' and the other 'Peco'. Standing alone, they look very realistic, but coupled together they are obviously quite different. The 'Hornby' version has a moulded body, painted dull buff, and a steep roof, and is mounted on a 11'0" chassis, while the 'Peco' version has a bright yellow wood and card body, a shallower roof, and is built on a 9'0" chassis.



A similar variation is seen between the "Weltrol" bogie well wagons, made by 'Hornby', 'Trix' and 'Acro'. The Hornby version seems to have an "HO" body with "OO" wheels. The 'Trix' version has a body nearer to "OO" proportions, with bogies and wheels nearer to "HO". The 'Acro' version looks "OO" right through. Coupled together they look very interesting.

These manufacturers do not keep these discrepancies in scale to themselves either. Some 'Triang' bodies seem to be reduced to fit a 9'0" chassis. Striking examples of this are the mineral wagon and the tank wagons which seem to match "HO" stock more closely than "OO" stock. If you compare the 'Triang'

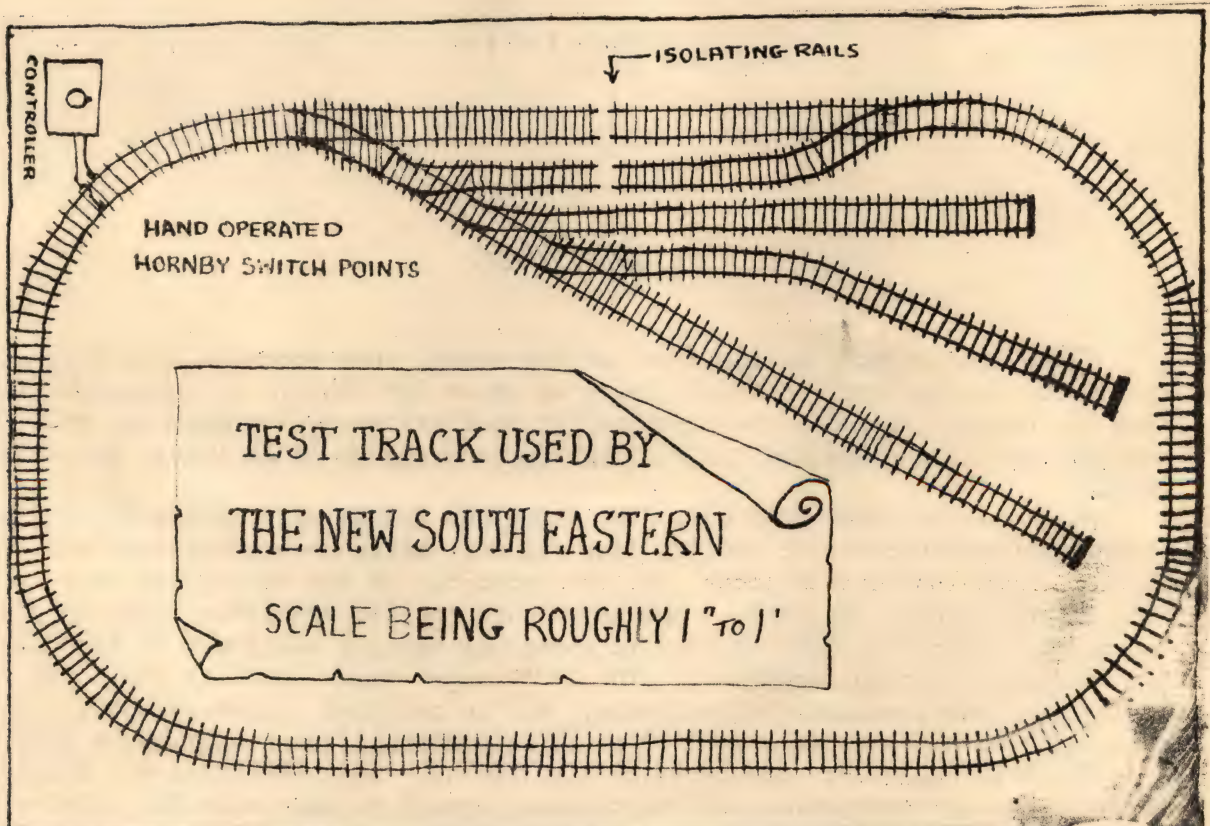
R243 mineral wagon with the 'Hornby' 4655 mineral wagon, you will see what I mean. So you can see how the scales have been mixed right from the start. I can only say that I am working to a scale roughly between "HO" and "OO".

Later on I bought a four-wheeled "Lowmac" wagon kit, made by "K's". This kit was disappointing; it had no wheels or couplings and no directions were included. There was no mention either that the castings were made of metal of a very low melting point, so as soon as the soldering iron touched the parts, I found myself with a shapeless blob of white metal on the bench and 11/9 worth of experience on my hands. I obtained another kit, identical with the first, and this time I "soldered" it together using pieces of white metal from the previous kit in place of solder, and a slightly cooler iron.

'Rex' kits make up into good little wagons. Painted British Railways red they match in well with the other stock. They lack detail in the roof and underframes, but the latter at any rate can be improved quite easily by cutting brake fittings from thin brass and inserting them between the chassis and the body.

At this stage, with about fifty pieces of rolling stock and three locomotives, I decided that a test track on a base-board must be constructed and a power supply bought. So a 6' x 4' piece of Caneite was duly acquired and framed up to give it strength, and was then given two coats of "Dulux" salad green matt paint. This colour is closer to a blue than a green, but is none the less quite attractive.

'Hornby' track was then laid to give a single track with sidings in the centre. The layout is stored when not in use against the wall in the spare



room. The rolling stock is at present stored and brought out when required. Power is supplied from a 'Triang' power supply/controller. The reader will understand that the layout of the future still remains to be built but the test track will have to do until the bright day of unlimited operating space arrives.

To round off this article here is the stock list of locos to date - given in the order of purchase:

- (1) 'Rivarossi' 0-6-0 T Italian tank.
- (2) 'Fleischman' 2-6-0 German 'Mogul'.
- (3) 'Triang' 4-4-0 B.R. Southern Region Class L1.
- (4) 'Hornby' 0-6-0 T B.R. Southern Region Class R1.
- (5) 'Hornby' 0-6-0 T B.R. Southern Region Class R1.
- (6) 'Rivarossi' 0-4-0 ST Baltimore and Ohio 'Little Joe' dock shunter.

So as the reader can see, the layout is going in the general direction of the Southern Region of British Railways with a few continental ring-ins to confuse the issue. No set era or locality of the Southern is planned at present, so obsolete tank engines can draw ancient and modern British Railways stock, although it is my intention to concentrate in future on S.R. stock only.

The fifteen inch radius curves and points will be discarded in the planned layout, not only because of their narrow gauge or "tramway" appearance, but also in the interests of longer trains. The larger radius curves and points will also allow the small six-coupled English engines to retain all their flanged wheels. The two 'Hornby' tanks are at present in workshops having their flanged driving wheels restored.

* * * * *

THE UNDERLANDER.

"The Underlander" is the name of the train that operates two thousand feet below the surface on No.13 Level at Mount Isa Mines; it transports ore from the copper stopes to the crushers at No.2 ore shaft - a distance of half a mile - and is the largest train operating underground in an Australian metal mine.

At first the mines used only 2'0" gauge and trucks were hauled by 70 h.p. seven-ton English Electric trolley locomotives. Later on a change was made to 80 h.p. eight-ton Goodman locos and the capacity of the trucks was increased from 3½ to 5 tons. Recently, however, with the big expansion programme at Mount Isa, there has been a need to introduce heavier equipment to transport the increased tonnage produced. The 2'0" gauge track is still there and is still used for developmental purposes, but in addition there are now eight thousand feet of track laid to 3'6" gauge as well, built as a dual gauge system.

The 3'6" equipment consists of two 120 h.p. twenty-ton Greenbat trolley locomotives and twenty-five 11½-ton capacity trucks to cope with the increased output.

AUSTRALIAN MODEL RAILWAY ASSOCIATION

Statement of Receipts & Expenditure

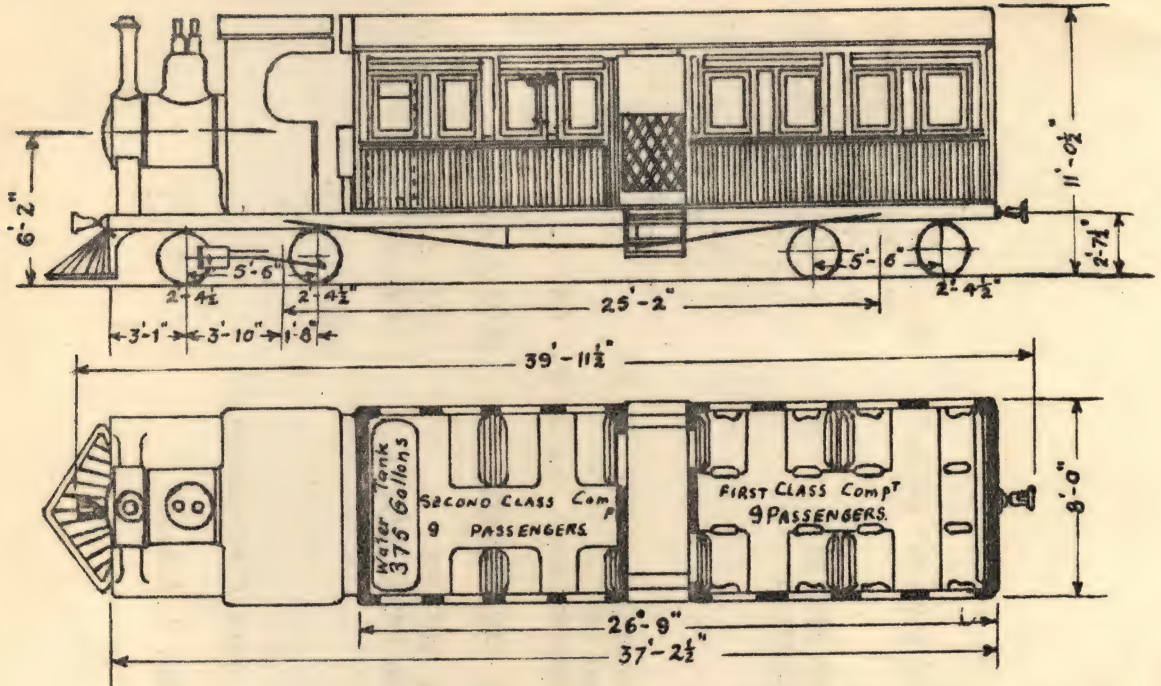
for year ending 31st May, 1961

Receipts.		Expenditure.	
Bank Balance 31/5/60	£177.1.0.	"Journal" and "Buyers' Guide"	£203.17. 7.
Petty Cash on hand 31/5/60	27.0.0.	Stationery	32. 7. 2.
		Postage	102.15. 6.
New Subscriptions		63.16. 6. Addressograph Plates	6. 0. 4.
Renewals		293. 6. 3. Typewriter Repairs	4.12. 6.
Donations		12. 8. 8. Advertising	39.13. 0.
Sale of Badges		7.16. 0. Badges	22.12. 0.
Sale of Journals		2.18. 0. Insurance	1.10.11.
Bank Interest		5.12.11. Stapler	2. 0. 0.
Advertising		2.14. 3. Hermes Typewriter	£78. 2. 6.
		Less Trade-in on	
		Underwood Typewriter	4. 0. 0.
			68. 2. 6.
		Total Expenditure	£483.11. 6.
		Cash at Bank 31/5/61	82. 2. 1.
		Petty Cash on Hand 31/5/61	27. 0. 0.
	£592.13. 7.		£592.13. 7.

Audited and certified correct

G.E. Johnston, A.A.S.A.

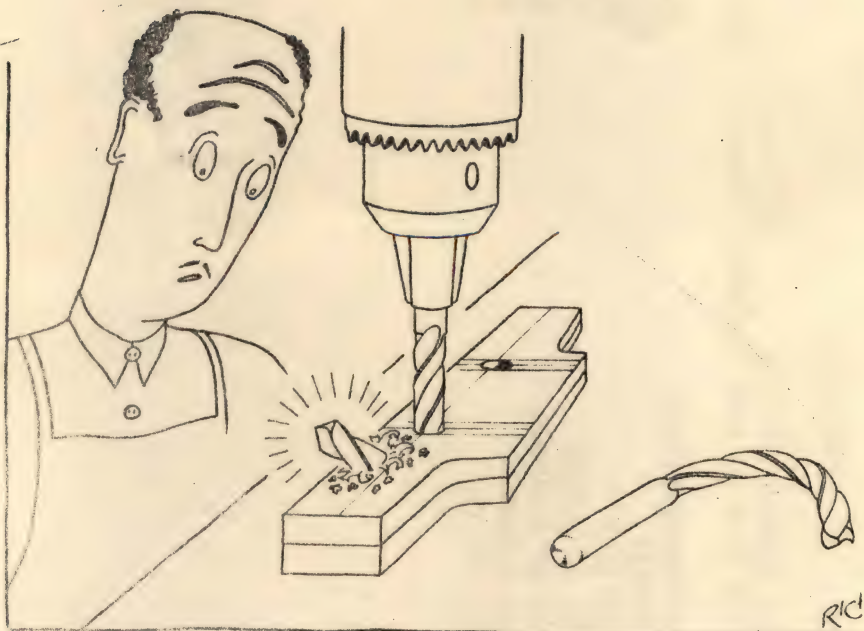
27. 6. 1961



COMMONWEALTH RAILWAYS 3'-6" GAUGE

STEAM MOTOR COACH CLASS NJAB

JT. 23-9-'61.



MY DRILLS SELDOM BREAK, BUT THEY OFTEN BEND IN THE CHUCK

ESPERANCE RAILWAY YARDS, W.A.,

by Broughton Boydell

From Normanton in Queensland to Busselton in the west, are many ports that have risen and fallen for one reason or another, but few have had the ups and downs of Esperance, and up and down with the town have gone its railway hopes.

Esperance Bay first saw its settlement when the Dempster family landed there and started a sheep run. With the discovery of the Yilgarn Goldfields and with the spectacular finds at Coolgardie and Kalgoorlie, Esperance had a very rapid rise, being the closest port.

The first semblance of a railway was a 3'6" tramway on the jetty running to the Customs House which today is the railway goods shed. As the line left the jetty it branched, one line running up James Street alongside the Customs House, the other running through the Customs House. This line was originally equipped with six flat topped trucks and generally man power was used but this was later replaced by a horse.

Esperance, which had only a handful of whites in the early 1880's, had a population approaching 2,000 in the mid '90's, most of whom lived in tents and temporary types of shelter. To provide for the growth of the town the Government let a concession to an English Company - The Esperance Bay Land Company - who were to build a town at Newton, approximately one mile east of the township of Esperance. This company built a jetty some 4,000 feet long and providing two berths with a depth of 25 feet of water.

They also built a tramway of 2'6" gauge along the jetty, then along the shore to the Esperance Customs House and to Burns Philp's bond stores (now Stearne's Flats). This line was nearly two miles long. On the official opening day free rides were given to the children of the district on the only truck at that time built for the line. The same truck was used once again to convey a dance party from Esperance to Newtown, but other than these two occasions the line was never used and no ship ever tied up at the jetty. The company only built six houses of the proposed township and then went into liquidation.

They had a concession to build a line north to the goldfields. Very little is now known about the company but the line they did build was 2'6" gauge so it may be assumed they intended to build north using the same gauge; if so the only 2'6" gauge line of any length ever to be decided upon in Western Australia died a very early death.

Had this company gone on with their plan of building a line, we must wonder what form it would have taken. Several portions of the old line have been unearthed lately when house sites have been cleared. They reveal a line of unusual construction, which appears to have used a slightly heavier than 15 lb rail; the sleepers appear to have been a steel pressing slipped on to the rail and clamped in the same manner as a tin-plate rail, being very similar to the

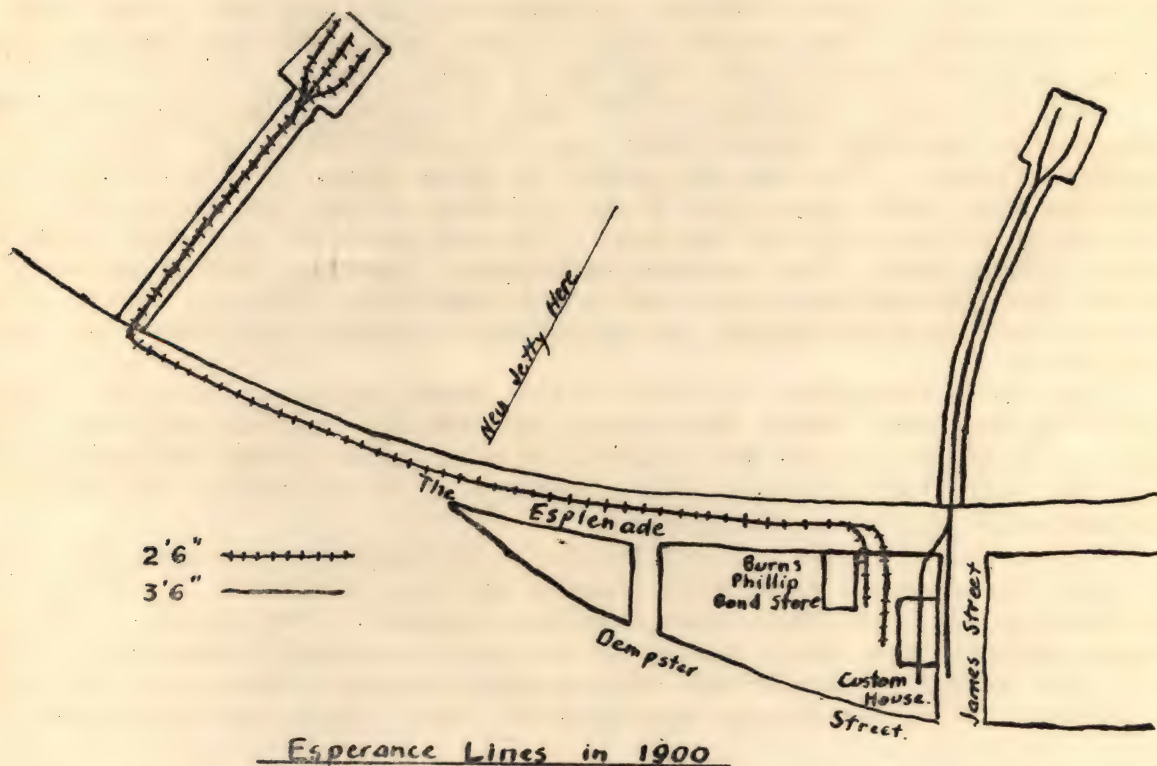
late type Hornby '0' gauge track.

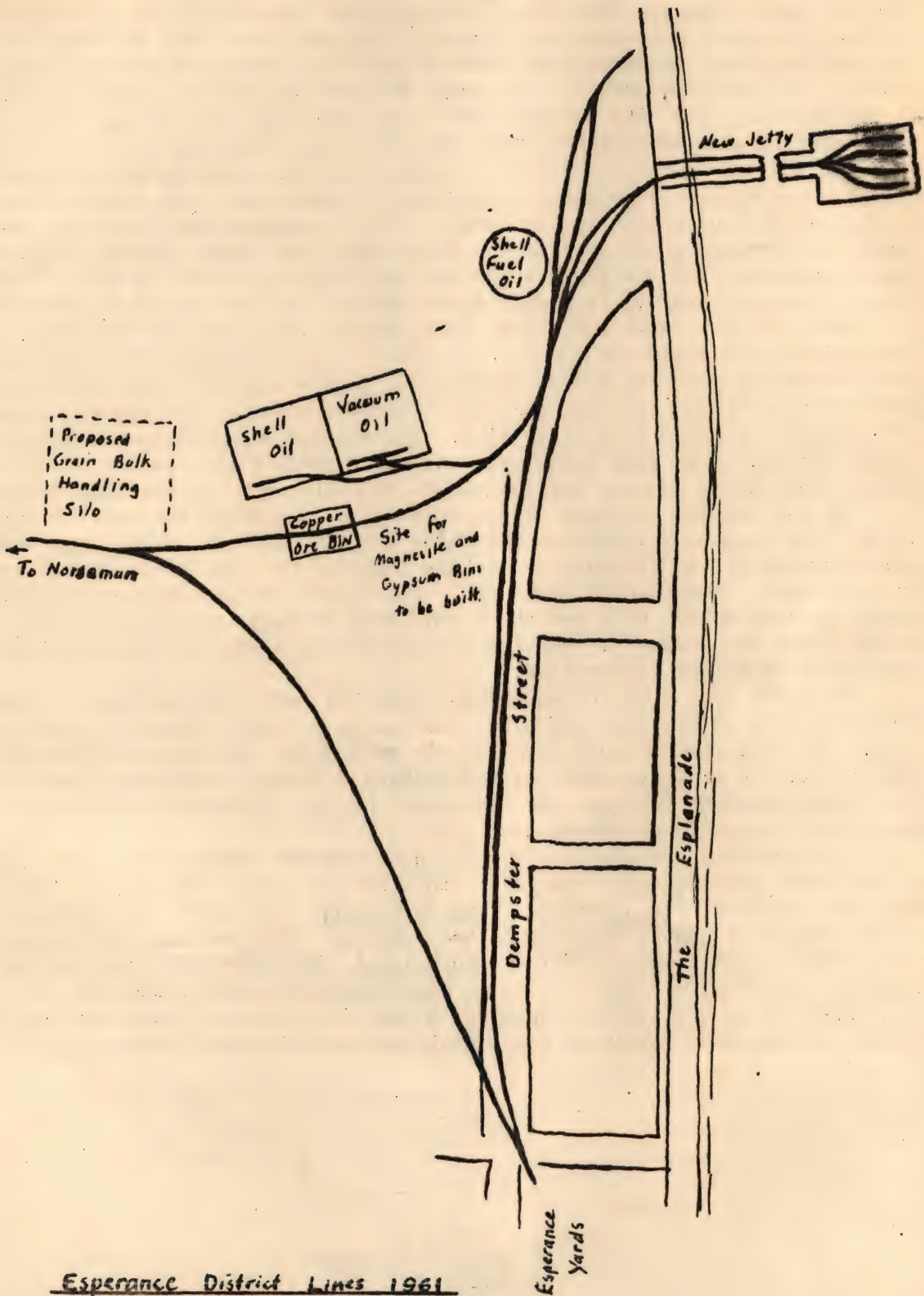
The line from Fremantle reached Kalgoorlie in 1896; Esperance then declined rapidly and in 1902 had a population of 341 with 78 occupied houses and 29 unoccupied. On information supplied by the railways publicity office a "toast-rack" tramcar was supposed to have arrived in the late '90's for use on the jetty, but apparently it never arrived as none of the old hands can recollect seeing it.

In fact, what really happened between 1900 and 1916 when the line started north is rather a mystery. Public Works Department and Railway records indicate that a toast-rack tramcar (24 seat capacity) was shipped to Esperance followed by two ex-W.A.G.R. four-wheeled coaches, to be followed by a further two toast-rack tramcars, bringing the total number of passenger rolling stock to five in 1910.

Actually by 1910 the town was nearly non-existent again and it seems strange so much should be sent to a declining town. No old hand can remember seeing any of this before construction north began. One can only assume it was decided to send the stock and that the town decayed so quickly it was not sent. P.W.D. records show plans for extending the jetty line in James Street alongside the Customs House to Dempster Street and then branching left and right but this extension was never built.

There was also a proposal to send an ex-W.A.G.R. 0-6-2 tank locomotive, No. 5, the original H class and an 0-6-0 tank, No.18 class H. These engines did arrive later for construction north as also did a P.W.D. tramway engine of unknown details.





Esperance District Lines 1961

In 1916 it was decided to push a railway north so as to give the gold-fields a closer port, especially the new Dundas fields around Norseman. The line was taken from the old jetty line but after reaching Collier, four miles north of Esperance, construction ceased. At about this time the James Street line was extended to serve the Standard Salt Co. which had erected a drying plant. The salt was hauled in by horse and cart and finally dried and bagged at this plant. The salt company no longer operated but the building still stands and is used as a warehouse by one of the local stores.

In 1924 construction north was resumed but this time it was to serve the Mallee wheat fields then being opened up. Salmon Gums was reached and the line used to haul wheat to Esperance. The following year the line was extended to Norseman which then linked it up with the State system. Esperance again prospered with the grain ships but during the war when no shipments were made it declined again. It boomed again in the '50's and is still increasing.

When the line north was built more sidings were added to Esperance yards and a turning triangle was built. In order to use the goods shed sidings the jetty had to be used as a head shunt. In 1934 a new jetty was built $\frac{1}{4}$ mile east of the original one and to serve this the base of the turning triangle was extended to serve as a jetty line. Oil sidings adjacent to the jetty then later went in. A 60 foot turn-table was put in before the new jetty was built but in 1959 it was removed and installed at Calligiri on the Miling branch.

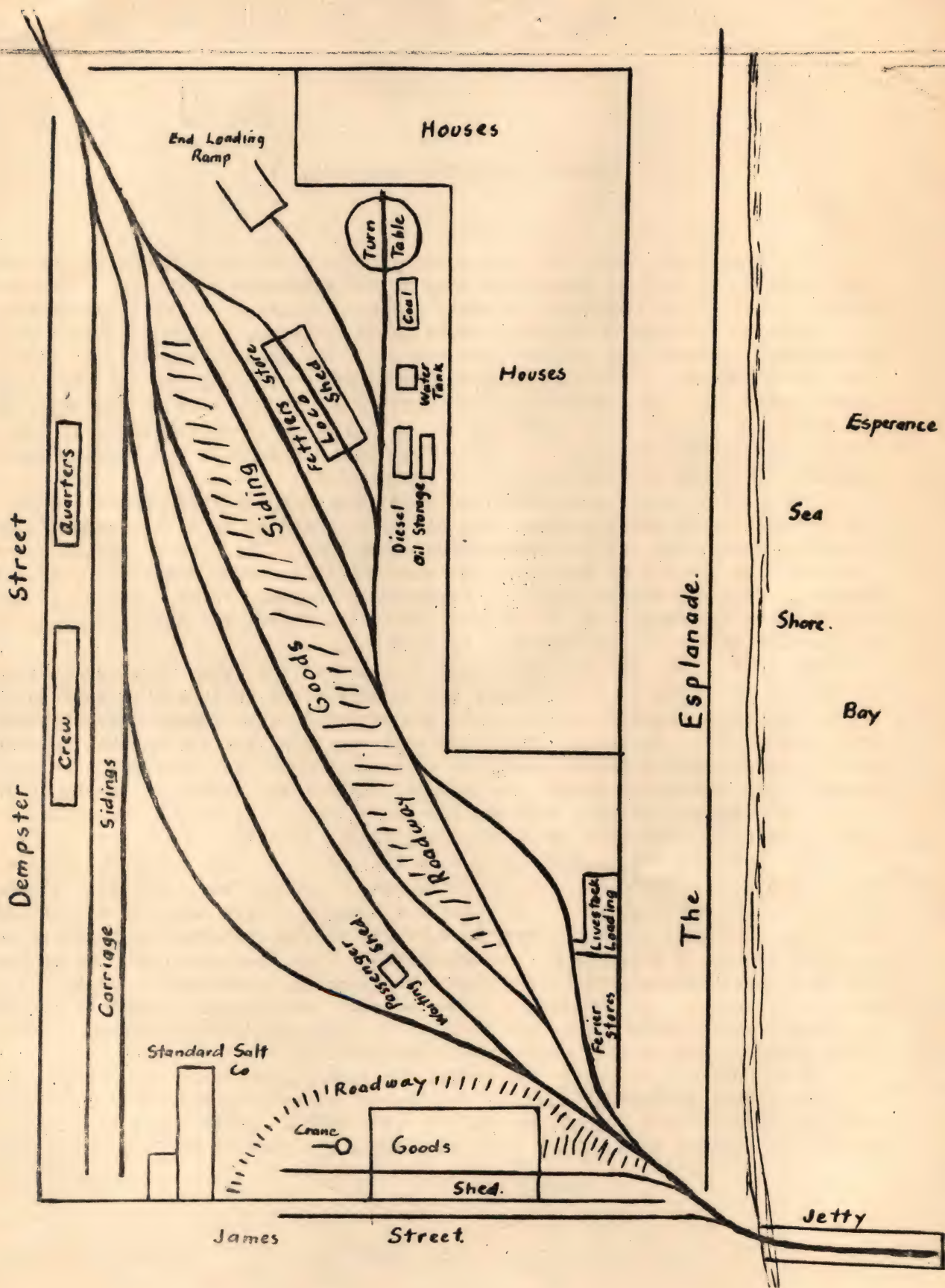
The old turning triangle again proved useful after the war for turning the 85 foot long A.S.G. engines but today the line is fully dieselised and as the third leg of the triangle is not now required for turning purposes copper ore bins have been erected over it. The copper ore is carried from Ravens-thorpe by road to the bins and there run into railway trucks to be taken out to the jetty for shipment. The two new oil depots alongside the ore lines are the latest additions to the line.

The yards take their unusual shape from the fact that they are an extension of the old jetty yard and were laid to make use of the old jetty goods shed. At that time the old jetty was in use but as the jetty has now fallen into decay, the railways have had to maintain a short length as a head-shunt. The portion used as a head-shunt has also had to be strengthened in order to carry the heavier locos now in use.

As almost all the shunting must be done from one end of the yards because of the shape and layout of the yard, the practice in the early steam days before the advent of the turntable, was to make up the train and then push it out of the yards on to one leg of the triangle and then run the loco around the other two sides and so besides turning it it finished at the head of the train. All shunting has also to be done across the main roads into the town.

While it is quite common to model a yard in a corner I think you will agree it is only very rarely we see a prototype yard in such a place.





A WATERLESS SOLDERING FLUX

by W.R.Lewis

(From "Tin & Its Uses" No.51.)

The presence of water in zinc chloride and other acid fluxes is an anomaly because it must be evaporated away before soldering can occur. For example, it is common practice to smear a watery solution of zinc chloride or zinc ammonium chloride on to the surface to be soldered, letting it penetrate, if possible, between the pair of surfaces which are applied together in readiness for soldering. The application of the hot soldering bit to the flux-wetted surface is then commonly accompanied by an audible hiss as the water is exploded into steam. The soldering bit is required, in such a case, to furnish the heat needed to raise the water from room temperature to boiling point and then to supply the latent heat for vaporization.

Each gram of water converted into steam requires over six hundred calories to vaporise it and this heat has all to be supplied by a rather small rod of copper which must not be heated above about 350°C for fear of spoiling the "tinning" on the tip of the bit, and must not fall below about 250°C if the solder on it is to remain liquid. Furthermore heat has to be supplied to the metals being soldered. It is obvious, therefore, that the presence of water in the flux is a definite hindrance to soldering.

And this is not the only objection to water in the flux. The evaporation of most of the water at 100°C leaves the metal surface with a thin coating of nearly dry zinc chloride upon it. As the temperature is raised this dry salt of zinc chloride eventually fuses and acts as flux but its volume is very small and frequently insufficient to cover the whole area that is to be soldered. Dry patches of metal can be seen between the spreading droplets of solder and vigorous working with the tip of the copper bit may be necessary to bring sufficient flux on to them to effect proper tinning.

Yet another disadvantage comes from the water in zinc chloride fluxes, namely that the explosive boiling of the water in the flux scatters minute droplets of flux far and wide over the surrounding metal and into the atmosphere, from which they settle upon all surfaces of the workshop and in addition irritate the nasal passages of the workpeople. This fine spray of zinc chloride is a particularly effective agent of corrosion; its double salt, zinc ammonium chloride, is possibly a shade worse. As a result products may be disfigured before they leave the factory or they may develop a rash of rust spots later on and rapidly become badly corroded.

It is possible to avoid the spattering from acid fluxes by using polyethylene glycol instead of water as the solvent or vehicle for the flux. Polyethylene glycol "200" begins to boil at about 260°C , which means that it can be used in contact with molten solders without the risk of boiling away with

explosive violence as water does when it touches molten solder. It readily dissolves all the usual acid fluxes, including zinc chloride, ammonium chloride and the double salt zinc ammonium chloride.

The polyethylene glycol based fluxes remain as liquids in contact with the molten solder during the soldering operation and this has the following advantages:

(1) The flux covers the metal surface during the whole of the heating-up stage before the molten solder runs upon the metal, so the metal is prevented from oxidising.

(2) The area of spread of a droplet of molten solder is two or three times as great as when water is used. The edge of the spreading solder forms a smooth ring which is not broken and indented as it is when water-based flux has been used and has dried on the surface of the metal.

(3) A much smaller volume of flux is needed so there is less to remove afterwards. It is usually sufficient to draw a felt pad, previously dampened with the polyethylene flux solution, across the metal surface.

(4) The absence of spattering eliminates the corrosion and rusting of metal surfaces.

(5) The residues that remain after soldering are suspended in unchanged polyethylene glycol which is instantly soluble in cold water.

(6) The high boiling point of polyethylene glycol means that it will not produce unpleasant fumes when in contact with hot metal.

(7) Polyethylene glycol is a harmless substance which is used as the basis of cosmetic and toilet preparations for use on the skin and is easily washed off the skin.

I have checked the position regarding the availability of Polyethylene Glycol "200". Some Melbourne chemical supply houses stock it, and I find it has an alternative trade name "Carbowax". There is tremendous variation in price. Robert Bryce & Co., 526 Little Bourke Street, quoted me 3/9 a lb, but only sell it in one gallon lots. Locke Tomsitt & Co., 292 Flinders Street, will sell in small quantities at the rate of 3/- per ounce! We have the same chemical here at work, so I tried it out with some zinc chloride. On both brass and tin plate it seemed an excellent flux medium; there was no spluttering at all, and the molten solder "ran" in ever increasing smooth outlined circles as suggested in the article. I can recommend the idea to those who are confronted with some fussy soldering job such as the complicated detail on a loco back-head. The entire absence of spattering in a case like this is much to be desired, and the residue washes away cleanly in cold running water.

Rick Richardson.

FITTING PECO COUPLINGS TO TRIANG TANK WAGONS

No 1
OF A
SERIES

AFTER REMOVING WHEELS AND TRIANG COUPLINGS CUT OFF THE OLD MOUNTING BRACKETS AND FILE THE UNDERNEATH OF THE BUFFER-BEAMS LEVEL. AFTER PREPARING PECO BRACKET DRILL TWO HOLES IN THE PLASTIC FRAME, KEEPING AS CLOSE AS POSSIBLE TO THE BUFFER BEAMS. GENTLY WORK COUPLING INTO POSITION WITH

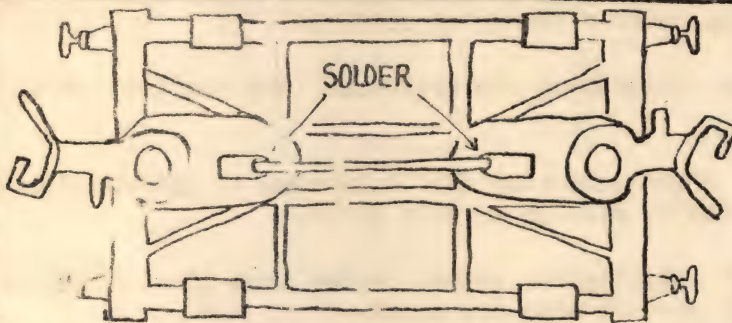


FIG. 2 SHOWS JOB SET UP PRIOR TO SOLDERING
PLAN:— (INVERTED)— NOT TO SCALE:—

TO-AND-FRO MOTION. INSERT SCREW-DRIVER UNDER THE TANK AND BEND THE TABS OUTWARDS. REPEAT OPERATION FOR OTHER END. CUT & SHAPE WIRE TO BRIDGE THE TWO SLOTS (FIG 2) CLEAN METAL AROUND SLOTS AND SOLDER. REASSEMBLE WHEELS

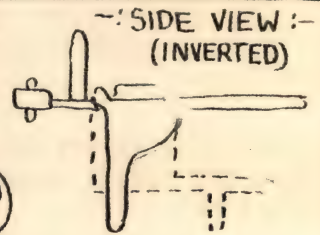


FIG. 1 THIS VIEW SHOWS THE PECO COUPLING UNIT IN IT'S MODIFIED STATE. THE ORIGINAL SHAPE OF UNIT IS SHOWN AS A DOTTED LINE. NOTE THAT THE REAR PORTION OF BRACKET HAS BEEN BENT BACK IN LINE WITH THE COUPLING ITSELF (AND TAB REMOVED) WARNING: DO NOT BEND IT BACK SHARPLY OR IT MAY BREAK OFF... IF IT DOES BREAK OFF DO NOT WORRY. FIX BRACKETS INTO RECESSES TIGHTLY USING A LITTLE GLUE IF YOU LIKE... BUT DISREGARD SOLDERING INSTRUCTIONS

TRILENE CAN BE POISON!

When Ivan Laszlo sent in "Notes on Plastics" he said he had a feeling that trichlorethylene ("Trilene") might be poisonous and asked us to make enquiries. As it is used medically as an anaesthetic this seemed strange, however in a recent letter in the Railway Modeller a writer has stated that in the presence of a lighted cigarette trichlorethylene can be converted to phosgene. Phosgene is a poison gas, so DO NOT smoke if you are using trilene!

"PLANET "

& HER SUCCESSORS

by "Loncostrion"

The Locomotives of the 1820's and earlier seem rather freakish to modern eyes, with cylinders stuck in all sorts of odd places, and chimneys resembling those on domestic copper stands. But in the year 1830 Messrs. Stephenson and Co. designed and built a locomotive which in many ways set the pattern for all subsequent locomotives. They called it the "Planet".

One of the problems that arose as soon as trains began to move at speeds over ten miles an hour, was that of maintaining the stability of the engines. Those with cylinders placed vertically or in a steeply inclined position tended to roll, owing to the alternating pull and thrust of the pistons on each side. Those with horizontal cylinders like the "Northumbrian" tended to stagger, and this motion was set down, not without reason, to the ratio of the distance between cylinder centres to the length of the wheelbase, which on those little four-wheelers, was very high.

What was not realized then, or for some years afterwards, was that much instability resulted from the unbalanced condition of the rotating and reciprocating parts. Accordingly, the Stephensons set out to improve matters by placing the cylinders as close together as possible, under the boiler; in other words they built the first inside-cylinder engine. Such an arrangement requires a cranked main axle, and since the forging of reliable cranked axles was a difficult and chancy operation, the designers decided to provide each driving wheel with two bearings, one inside and one outside, to maintain the alignment of the wheels in case of axle breakage.

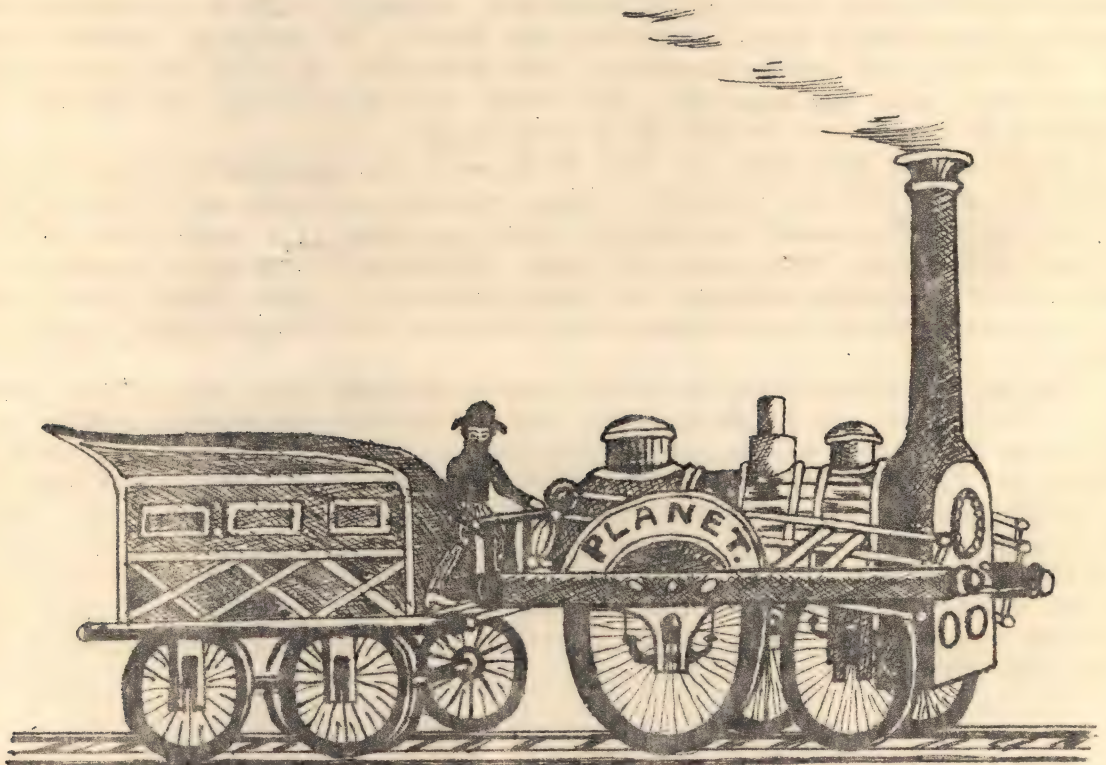
To this end, they made the main frame with four longitudinal members, two inside the gauge and two outside. These members were made up in what came to be known as the "sandwich" principle. Each consisted of a thick plank of oak, enclosed between two thin plates of iron, the whole being held together by a large number of rivets arranged in fancy patterns. These frames were deeper in the vicinity of the axle-boxes, and narrowed off between them and at the ends.

The boiler assembly was much more modern-looking than that of the "Rocket". The firebox was slightly wider and higher than the barrel, while conforming to its shape at the top; there was a full sized smoke-box, and the chimney was finished off with a neat flange. At the rear, the frames supported a footplate - open, of course, except for a guard-rail on each side. There was a platform at the front, and, apparently, running plates along the sides, with semi-circular open-work splashers over the drivers. There was a buffer-beam at the front, with a central hook and chain coupling, and two buffers made from concertina-like leather bags stuffed with horse-hair and plated at the front with iron.

The wheel arrangement was 2-2-0 with the driving axle placed just in front of the fire-box. The four-wheeled tender was similar in outline, and probably in construction, to many modern tenders on both British and Australian railways. This was in contrast to earlier engines, which used a wooden truck provided with a tank or barrel for water. Buffers and couplings were, of course, fitted to the rear of the tender.

I have seen no record of "Planet's" performance, but it must have been fairly satisfactory, since about 1835 Stephenson and Co. brought out an improved version, with an additional pair of running wheels behind the fire-box. This was called the Patent engine, or "Patentee", and proved eminently satisfactory. Some of these later engines were fitted with what were called "Haycock" or "Gothic" fire-boxes, the tops of which were raised high above the boiler barrels, and formed either into domes or into flat pyramids. This was to obtain adequate steaming space, but eventually gave place to either the domed boiler or the raised round-top fire-box as on the "Planet".

During the 1830's and 1840's, there was much controversy over the question of rail gauges. The pioneer, George Stephenson, had been content to adopt the gauge of the mine tramways, which was 4 feet 8 inches plus $\frac{1}{2}$ an inch to give free running, and he remained the chief protagonist of what is now the British Standard Gauge. Many others however believed that a wider gauge would give improved stability and impose less restriction on the designers. Prominent among these was a brilliant and imaginative young engineer of Belgian descent, bearing the striking name of Isambard Kingdom Brunel. When, in the early 1830's, he was appointed to the post of chief engineer on the Great Western Railway, projected to run between London and Bristol, he very cleverly circum-



vented the efforts which the Government was making even then, to ensure a uniform gauge, and built the line to a gauge of 7 feet, plus $\frac{1}{4}$ inch for free running.

But, despite his success as a civil engineer Brunel was no locomotive man and the restrictions which he imposed on the builders of the first Great Western locomotives gave his Locomotive Superintendent, a young man of 21 named Daniel Gooch, many headaches and sleepless nights, and which made even the semblance of regular running impossible. Luckily, the line possessed two engines which were not of Brunel's design. Named "North Star" and "Morning Star" they were Stephenson "Patentee" engines, which had been built for a railway project in Louisiana, U.S.A. The gauge of this line was to have been 5 feet 6 inches, but the scheme fell through and the Stephensons, left with the engines on their hands, converted them to 7 foot gauge, and sold them to the Great Western Company.

They must have saved Daniel Gooch's sanity, and when at length the company realized the situation and ordered Gooch to prepare plans of his own, he used the Stephenson engines as models. The result was a line of locomotives which set a very high standard of power speed and stability. Before long, their superior performance raised fears in the minds of the standard-gaugers that they would either be compelled to widen their own tracks, or suffer broad gauge competition within their own territories. Locomotive designers, believing that the success of Gooch's locomotives was due to the low centre of gravity provided by the broad gauge, abandoned their earlier designs and attempted to produce engines with a centre of gravity approaching that of their rival. Two results of this trend were the Stephenson "long-boilers" and the Cramptons, but the most radical design was that of Francis Trevithicks "Cornwall" which was actually built with the boiler under the driving axle! In this form it was a dismal failure.

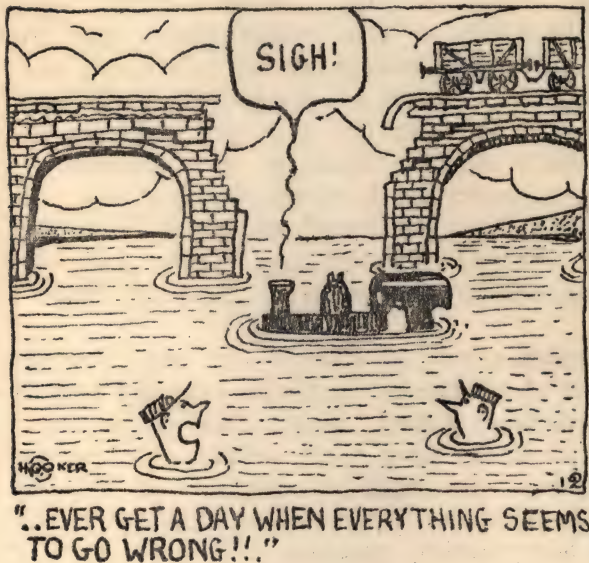
When a Royal Commission in 1845 pronounced in favour of the Standard gauge, it was not because of any superior performance by these engines but because there was eight times as much standard as broad gauge line in the country and a decision in favour of the latter would have been unfair. After that the freak designs were dropped and designers reverted to engines of the Patentees or similar types fitted with wheel-weights to promote stability. J.E. McConnell, of the North-Western, scored outstanding success with a line of inside cylindered, inside-framed engines, nick-named the "Bloomers". Joy's "Jenny Linds" had double frames but inside bearings only on the drivers, and outside bearings on the leading and trailing wheels. The 2-2-2 remained the standard express type on the British railways right up to the 1890's, when it began to be replaced, first by the "bogie single" or 4-2-2, and later by the "bogie four-coupled" or "American" 4-4-0.

Meanwhile, Gooch on the Great Western had gone on to greater things. About 1848 one of his 2-2-2's broke a leading axle while running at speed. This being put down to excessive weight on the axle, the engine was rebuilt with longer frames and two pairs of leading running wheels. These did not constitute a bogie, since both pairs of axle boxes were mounted in the main frames. One of the most famous engines of this design was "Lord of the Isles" exhibited at the Great Exhibition of 1854. With the later addition of a cab, this remained the standard broad gauge express design right up to the conversion to standard gauge between 1887 and 1892. The characteristics of this design were the 4-2-2 wheel arrangement, the double "sandwich" frames, the domeless boiler with raised round-top fire-box, and the large driving wheels with open-work splashers-boxes. Even after the adoption of the dome and bogie in

the latter part of the century, G.W. engines retained many of their ancient features, until G.J. Churchward brought out his radical 4-6-0's in the early 1900's.

Among other engines of the late 19th century which retained "Patentee" features were the Stirling 2-2-2's of the Great Northern which had domeless boilers, double frames and inside cylinders; and S.W. Johnson's 2-2-2's on the Midland which had similar features but domed boilers.

The 20th century saw the end of the double-framed, single driver engine, and though inside-cylinder types were built for a time, they gradually gave place to outside-cylinder, often with outside valve-motion, an arrangement which is more accessible for oiling and servicing. But in all conventional engines cylinders remain at the front end, as they have done ever since the birth of "Planet".



THOSE FOUR-WHEELERS AGAIN.

Mr. G.W. Chalk, the Minister for Transport in Queensland, has recently been overseas. In a recent article in the Courier-Mail, written on his return, he states:

"British Railways are tied to the use of small four-wheeled goods trucks because of their private sidings. There are many thousands of miles of private sidings built into factories and works, most of them with curves of small radius. Eighty-six per cent of British freight traffic originates in these sidings and seventy-per cent terminates there. As it is impossible to shunt large bogie wagons under these conditions the small four-wheeler must remain their key freight wagon."

SMILES ALONG THE MILES

by Broughton Boydell

We have all read at some time or other about the "Tea and Sugar" train run by the Commonwealth Railways on the Transcontinental line, but every Christmas this traditional train is transformed. The welfare car which is used at intervals by the Good Neighbour Councils and the Infant Health Nurse is also used at Christmas time and the lounge room of the car becomes a toy store. In the corner near the door stands a Christmas tree; no northern fir or pine, this tree, but a hardy native cut at Parkeston. Tiny coloured globes flicker among its leaves and beneath or beside the tree at each stop are gift wrapped parcels each bearing the name of a child.

The crew who volunteer for the job dress in the hot red robes and white whiskers of the traditional Father Christmas and welcome the children at each stop. At some stops there may be no children, only perhaps a small group of men, but there will still be the traditional fun and jokes and perhaps a bag of sweets and a balloon will be handed out. The balloon most likely will be hung on a nail in a lonely hut, probably the man's only festive decoration.

So the fun and joy continues for the 1,015 miles from Kalgoorlie (Parkeston) to Port Augusta at places such as Curtin, Chifley, Reid, Cook and Barton or perhaps at places such as the "913 Mile" or "937 Mile", lonely nameless outposts waiting for another Prime Minister to die so that they may be christened. These visits continue for five days and as far as possible the children are met in daylight. Many are without shoes and some only wear pants because of the heat, but Santa still has a word and a joke for each of them.

As the train stops at each station Santa greets the parents and children and leads the way back into the carriage. The sight of the Christmas tree and parcels always causes excitement. No child in a city home could be happier than these children living on this hot, dusty and thirsty stretch, which is our railway link with the east.

There is no St. Kilda or Bondi Beach for these children; no drive-ins, no theatres, no fun of shopping in large department stores; just the salt bush, the blue bush and the rabbits, with the same houses and same people and the same red-brown earth that they have lived with every other day. As the train leaves the station, Dad pushes the family provisions home in the wheel-barrow, while the children and toddlers, grasping their balloons and gaily wrapped parcels, bring colour and joy to the loneliness of the desert.



CHRISTMAS

GREETINGS

FICTION !

THE FIREMAN - A GHOST STORY

by "Ted Holmes"

What possessed me to model that Allen 2-2-2 I cannot think. Of course I had for a number of years been building a representative collection of models illustrating the development of British locomotives, rolling stock and track, and I had reached the 1860 period. Why I picked on a London & North Western type I cannot say; the line had never been one of my favourites.

Now it is a practice of mine to soak myself, as it were, in the prototype of any model which I plan to build. I gather photographs or prints of all aspects and details of the real thing; I try to imagine the men to whom it was familiar; I find out all I can of its history and, if any particular story is attached to it, so much the better.

In this particular case I discovered that an engine of the class, No.1840 "Pegasus", was the locomotive involved in the accident to the "Irish Mail" at Ty Mawr in 1864, when the rear wagons of a goods train loaded with kerosene broke away and, running down an incline, were struck by the "Mail" with terrible consequences.

The driver sighted the wagons approaching round a curve, recognised their load, and realised a collision was inevitable. With a wild cry to his mate he flung himself off the footplate and landed, unhurt, on the side of the cutting, but the locomotive struck the wagons, shattered them, and fell on its side.

The fire which followed was awful to contemplate. Thirty-three persons, trapped in the foremost coaches, were burnt to death and the fire raged for more than twelve hours. The kerosene-soaked ballast and sleepers acted as an enormous wick and at one time the very rails were white hot, while the locomotive was so distorted and damaged by the heat that it was beyond repair.

In spite of, or perhaps because of this, I christened my model No. 1840 "Pegasus" and proceeded with its construction. In some ways it was the easiest model I have ever made. At some time in the construction of any model one is usually in doubt as to just how a particular part or fitting was arranged. In this case I seemed to know. It was as though another person, familiar with the type, was forever at my elbow. In my mind's eye I seemed to have details, angles of view, memories almost, for which I had no good authority. In due time "Pegasus" was completed and was entered for the Society's annual exhibition.

As usual the preparations were chaotic and I was unable to see exactly where my models were placed, so when I visited the hall on Friday evening I searched for them to see how they looked. As I approached the stand I saw a man examining them, and a number of other L.N.W.R. models with great interest. His back was towards me but I could see that he was a railway man, and, by the waterproof top of his cap, either a driver or fireman. When, however, I worked my way nearer through the crowd I lost sight of him. I thought little of

the incident and, after a look round at the various stands, I found a job to do.

On the Saturday, however, I saw him again, once more studying the same models with the same attention, and again he was gone when I approached. Puzzled and rather flattered, for his main attention seemed to be fixed on "Pegasus", I was greatly surprised to see him again on the Sunday. As before, I lost him in the crowd, but this time I saw him a second and then a third time. On the last occasion I was quite close to the stand, admiring the prize-winning models, when suddenly he was at my elbow. His back, as always, was towards me but he seemed to sense my presence and to know who I was.

He spoke: "Perfect", he said, nodding towards "Pegasus". "She was just like that on her last trip."

"Glad you like her", I replied, without properly comprehending what he had said.

"Bill saw the wagons coming round the bend", he continued, "he shouted to me 'For God's sake, Joe, jump for it. We can do no more'. He went off to the left and I to the right but the tender came over my way when we hit. I heard the crash and the oil hiss.....".

He turned and faced me. For a moment I stared, my mind reeling. He had no face! - and he had no hands! The hall whirled around me. I was sickened and horrified. I came to myself in the First Aid room. For a few moments I remained at a loss how I came there. Staggering to my feet, I rushed back into the hall, snatched my model and, evading several surprised stewards, I rushed out into the night.

Next summer, on holiday, I cycled over to Ty Mawr, impelled by an overmastering desire to be sure what I dreaded was true. I entered the churchyard; behind the church there was a long grave. I read slowly through the names. In typically Victorian style they were arranged socially and not alphabetically.

Lord Fleet; Lady Fleet; Sir Nicolas Chinley, Baronet; Lady Chinley; the Hon. George Stapleton and his Son; a long list of less distinguished names, and last of all, Joseph Walsh, Fireman.

I turned away. So that was it.

Reprinted from "The Link" - December 1960 - by permission.

BOOSTERS

Boosters have been used with great success on locos both here in Australia and in the United States but nothing like the booster used on a certain Bavarian loco has been seen in either country. The Bavarians, some eighty years ago, noticed the success the British were having with their single driven locos and decided to try the same themselves. But they were uncertain about the tendency to slip on starting that a single has. So they fitted a small driver in front of the main driver with its own cylinders. This driver was used to assist the loco to start and when the loco was running it was lifted from the track by the use of a steam piston letting the loco run on its single main driving wheels. How would you classify it?

A BASIC PROBLEM SOLVED

by Allan Dowel

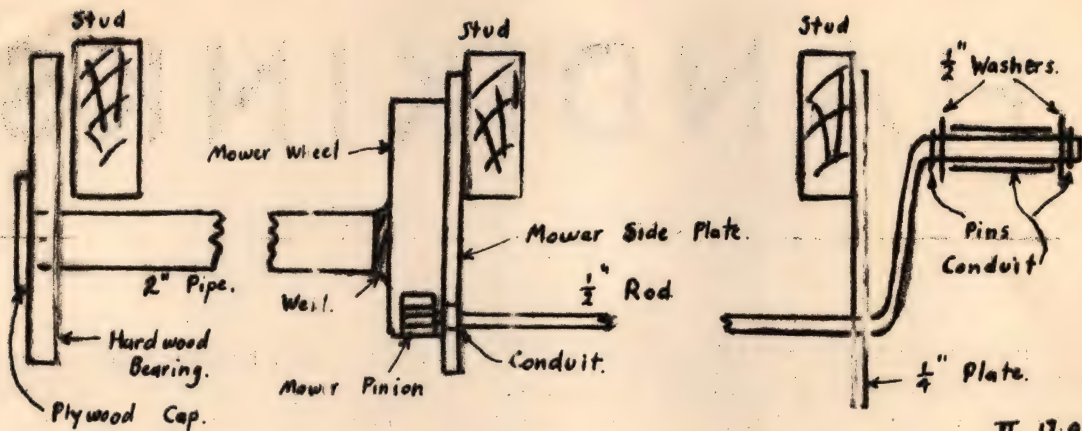
Number one problem for most of us is money, but don't get the idea that I am going to solve that one; however surely number two problem is space. My space problem was a typical one and you may be interested in my solution. I live in a house, I have a garage and a car lives in the garage; above the car there was space, and what is more 18 feet by 10 feet of it. This surely showed possibilities for quite a fair sized OO layout, if only I could arrange some economical lifting arrangement.

The problem resolved itself into two sections, one of which was a suitable cable and pulley system and the other a suitable winch. After wasting money on verandah cord, the first part of the problem was finally overcome by using $\frac{1}{4}$ " wire rope, obtained from a marine supply store. These people measure rope by circumference, so this $\frac{1}{4}$ " wire rope is actually only about $\frac{3}{32}$ " diameter. It has a great many strands, is used for launching gliders, has a breaking strain of about 10 tons, and is rust-proofed. It is flexible enough to pass easily around a $\frac{1}{2}$ " radius curve. I paid 1/- per yard for mine.

I finished off the layout ends of my wire by passing it around thimbles, which cost only a few pence at the same place. Instead of paying for costly splicing, I made tiny plates of $\frac{1}{8}$ " steel, $\frac{1}{2}$ " x $\frac{1}{4}$ ", with two $\frac{3}{32}$ " holes about $\frac{1}{4}$ " apart. I passed the end of the wire through one hole, around the thimble, through the other hole, and then knotted the end. Surely nothing could be cheaper or safer. These loops are then attached to four large cup hooks at four points on the sides of the layout, which incidentally is 15' x 4'.

All pulleys were the smallest type of verandah blind pulleys, which were available in "side" and "lazy" types for 1/- and 3/- each respectively. I knocked the axle pins out and replaced them with $\frac{1}{4}$ " bolts, but was told that I was too fussy. Here, incidentally, are two tips. The pulley frames are cast iron, which does not bend, in case you do not know. Secondly tin the wire rope with solder before cutting it or you will be in real trouble with frayed ends.

Now we come to the second stage. The obvious requirement for the winch was some form of gear reduction, mounted on the wall studs, and this spelt money, until someone suggested using portion of an old lawn mower, which is certainly easy to come by these days. I used the following parts; One mower side plate, one mower wheel, one mower pinion, two feet of 2" water pipe, three feet of $\frac{1}{2}$ " round steel rod, one piece of $\frac{1}{4}$ " steel plate about 10" x $1\frac{1}{2}$ " for a $\frac{1}{2}$ " rod bearing, one piece of $\frac{1}{4}$ " steel plate about the size of the mower wheel, six inches of $\frac{1}{2}$ " internal electrical conduit, one piece of hard wood about 8" x 4" x 1" for a 2" pipe bearing, one piece of plywood 3" x 3", four $\frac{1}{4}$ " x 1" bolts and nuts, four $\frac{1}{4}$ " x 2" bolts and nuts, two $\frac{1}{4}$ " x 3" bolts and nuts, two 1" split pins, two $\frac{1}{2}$ " washers and one 3" nail.



JT 17-9-61.

I mounted the mower side plate on a stud, using two 2" bolts, and the first piece of $\frac{1}{4}$ " steel plate, with a $\frac{1}{2}$ " hole in it, on the next stud with the other two 2" bolts. The $\frac{1}{2}$ " hole must be in line with the pinion hole of the mower plate. The $\frac{1}{2}$ " rod can now be shaped into a handle, leaving clearance for the knuckles when you are winding. Hold the rod in a vice and use the piece of pipe as a lever. Slide a washer on to the handle, then a suitable piece of the conduit, and then the other washer. The handle can then be drilled outside the washers, for the split pins.

Place the balance of the conduit over the other end of the $\frac{1}{2}$ " rod. Place the pinion on to the conduit, teeth last, and drill a hole right through all three, wide enough to just clear the 3" nail. Fit the nail, cut off leaving about $\frac{1}{8}$ " protruding, then rivet the protrusion over the pinion. (Slide the handle through the two bearings before riveting).

The 2" pipe must be welded to the large piece of $\frac{1}{4}$ " plate, and the plate is in turn bolted to the mower wheel outside. Watch that the heads of the 1" bolts clear the pinion inside the wheel, or better still, drill and tap the mower wheel and use shorter bolts from the outside. Washers of various thickness can be fitted between the plate and wheel, to make the pipe run true in its distant bearing.

The hard wood block must be drilled with an expanding bit or hole saw, to clear the 2" pipe, then fitted to a third wall stud, to line up with the pipe, with the wheel in position.

Before final assembly, I drilled $\frac{3}{32}$ " holes into the water pipe to anchor the cable. I countersunk these holes to take off the sharp edge, then passed the cable through and knotted it. I also put a smear of grease on the gears and bearings, not forgetting the 2" hole in the wood.

Assemble the whole works, then screw the piece of plywood over the outside of the 2" hole to keep the wheel in position on its bearing. All that remains is to fit four permanent wire safety hooks on to the rafters, to reach the cup hooks when the layout is up, and arrange a similar wire clip to retain the winding handle, and we are in business for little more than one pound.

One last tip: I use 4 mil polythene film (six feet wide) to cover my layout and protect it from dust and moisture, and it has really paid off.

I have not shown measurements in the diagram as they will vary with your own requirements.

HANDIKINKS

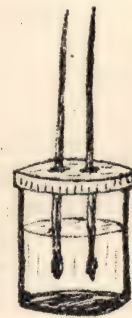
When cutting or drilling thin metal, clamp it to a backing piece of wood to avoid tearing or distorting the metal.

To start screws too small to hold in place with your fingers put some beeswax in the slot then insert the screw. The beeswax will hold the screw until it is started into the hole by the screwdriver.

To get your abutments, portals and retaining walls with a poured-concrete look, first make the model from wood. Give it several coats of grey paint, and while the last coat is still wet, sift Portland cement (or any other cement for that matter) over the surfaces until the paint is soaked up. When it is dry, shake off the surplus cement.

Foundry sand makes excellent ballast for the smaller scales. Unused, it's white or light tan. Used, it is various shades of dark brown or black.

Paint brushes are worth looking after, even the inexpensive little artist's brushes which we use for the painting and lettering of our models. A useful tip is to get a small jam jar with a fitting lid - a screw top is unnecessary - and to punch two or three holes in the lid large enough to take the brush handles. Mineral turps is then poured into the jar and the brushes are suspended into the turps. Here they may stay overnight and when used next day they will be perfectly clean for the next job. The lid prevents evaporation of the turps and the brushes may be kept off the bottom of the jar, where they will only collect sludge, by twisting rubber bands tightly around the handles to stop them dropping through the holes in the lid.



While we are on the subject of painting - ice-cream sticks make very useful rods for stirring the contents of the pot before you get going on the job.

Arthur Harrold.

DARLING

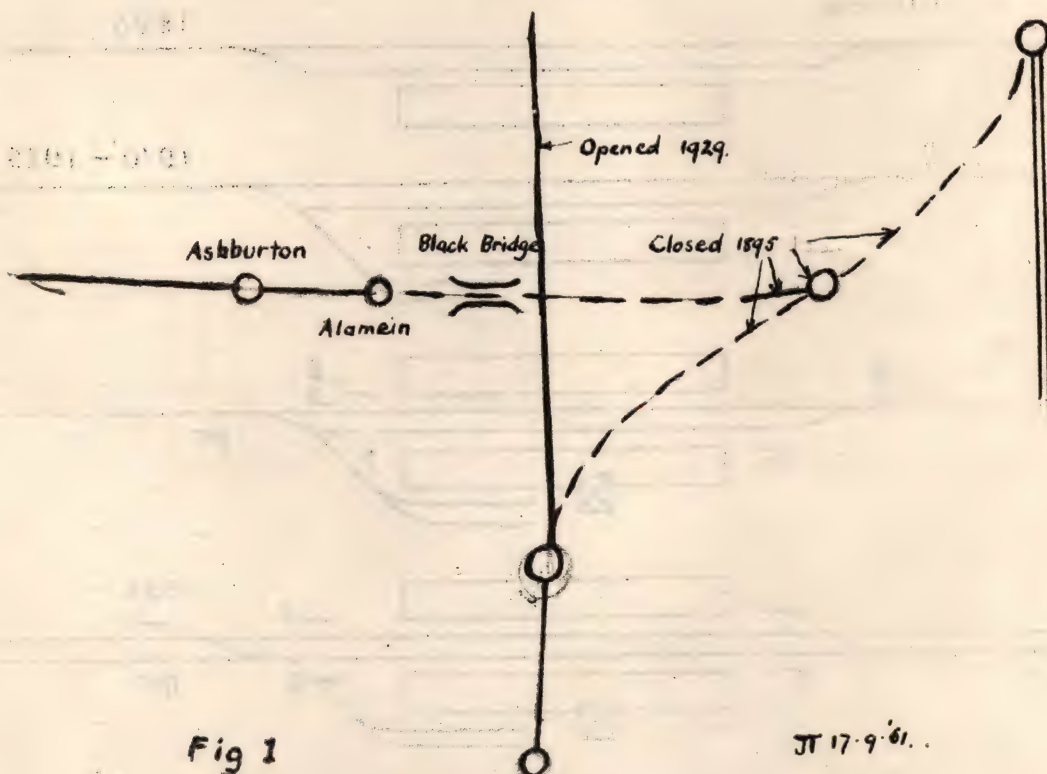
by Jack McLeon

PART I - THE PROTOTYPE

Not very far across country from Ashburton (which was described as "the end of the line" in the November 1958 issue of the Journal) is another "end of the line" which had the same problems as Ashburton but they seemed to have been solved in other ways.

Prior to 1895, Darling and Ashburton were within a few miles of each other railwaywise, but Waverley Road Junction has gone and the "Black Bridge" has gone, we optimists even admitting never to return, and so Darling became a terminus like Ashburton and at the same time. See Fig. 1.

The "sewer plans" which provide me with much of my information show Darling at this time to have been a main line and a loop as shown in Fig. 2. I have been unable to discover which side the passenger platform was and have therefore shown it on the loop. During the time the line between Darling and Oakleigh was opened, the local goods to Tooronga was worked from Oakleigh!



However when the station became the dead end of a branch line (I rather gather the branch was pretty dead too!) the other road was needed for engines to run round their trains and I guess that about this time they provided the goods sidings.

One of the first timetables I have is that of 1910 when sixteen trains a day operated, Saturdays excepted. Some of these were through and some local, changing at Burnley. The local stayed the night at Darling, and it is reasonable to suppose that the carriages stayed in the platform. What they did with the engine I cannot say as water was only available at Burnley. The goods service was provided by mixed trains, but why there should only be one mixed on the down and two on the up must remain a mystery. On Sundays, the first up was a through train and remained at Flinders Street from 10.39 until 12.50, giving the engine a chance to go to Port Melbourne for a weekly check-up and every now and then a change-over with another engine.

In 1916, several improvements in conditions had allowed (or been caused by) improvements in the service which now included twenty-four passenger trips and a daily goods (if required and Saturdays excepted). There were now two locals, the second one coming on for four trips in the morning, supplementing the morning peak, and thereafter a two hour break at Darling running the local goods service to Burnley and back and then getting back into the passenger business until the 11.38 p.m. down. The first engine and carriage set carried on through the evening peak until they went "off" at 7.20 p.m.

A glance at the diagram will show that here was one of those cluttered up situations in which McLean takes great delight. Overnight we could imagine one set of cars stabled on the down main line and another in the platform road,

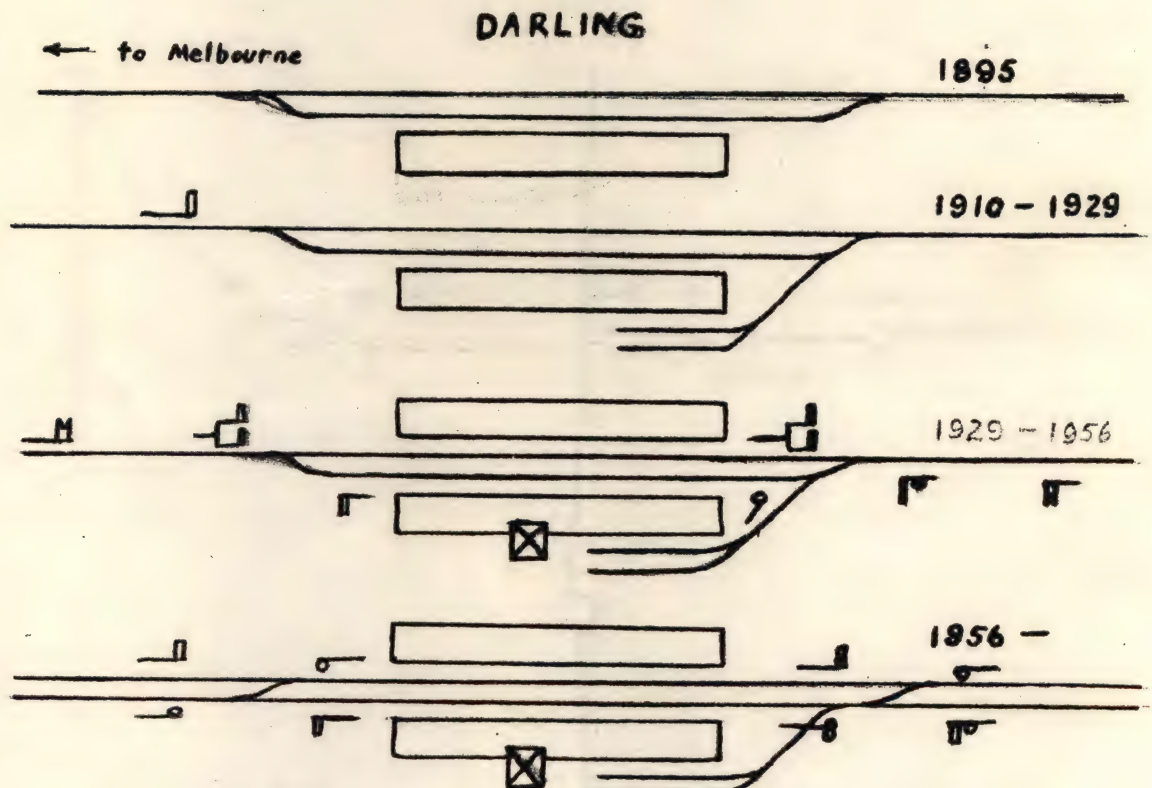


Fig 2

IT 17-9-61

two engines buffer to buffer in the siding near the platform and the goods trucks with a brake van in the other siding. Somewhere around five in the morning one of the engines would come out of the siding and round to the front end of the cars in the platform and at 5.19 commence the service.

About 6.15 the second engine would pick up the cars on the old main line and at 6.37 help out with the morning peak until on arrival back at Darling at 10.21. The engine would most likely run round and push the cars out on to the old main line and then prepare for the 12.20 goods by shunting the vans and required trucks into some semblance of order.

At 2.35 the goods would return and perhaps, rather hastily, the van and trucks would be shoved into one of the sidings so that the engine could pick up the cars it had previously left, and at 2.54 resume the passenger service. At 7.20, the other engine and car set would arrive and no doubt the former would run round and propel the latter to its resting place for the night, and then dawdle back to a siding to simmer for some hours before being joined for the night by its colleague, around midnight.

Of course, a few changes have taken place in the last few years. The line was electrified in 1924 when a service similar to steam was run, the off-peak service being mainly two cars (M second class motor coach and D first class driving trailer). And about this time two seven car electric trains were stabled on the old main line beyond the station, much the same as they were at Ashburton.

In 1929 the line was extended to Eastmalvern and later that same year to Glen Waverley. About this time the goods service was run in the wee small hours to avoid interference with the sparks whose regular service left little opportunity for goods train paths. When the extension to Eastmalvern was made the present signal box was built but the up and down working first practised didn't see the year out.

From late in 1929 until duplication in 1956, both up and down trains used the present platform road except during crossings when they kept to the left. Another interesting event in the 1930's was the Glen Waverley mixed which connected at Darling with the Melbourne goods. The latter was rather conventional with its steeple cab or box cab electric loco, but the mixed was interesting, to say the least, with ABM, followed by trucks and with Z van in the rear.

PART II - THE MODELLING SLANT

Now this is the sort of service you could "model" even with proprietary equipment. Triang would undoubtedly fit into such a scheme: two "Jinties", two sets of three cars each and an assortment of goods trucks and a van. The station at Darling needs four pairs of points and a minimum "BEYOND" would need! three, as shown in the diagram, Fig.3.

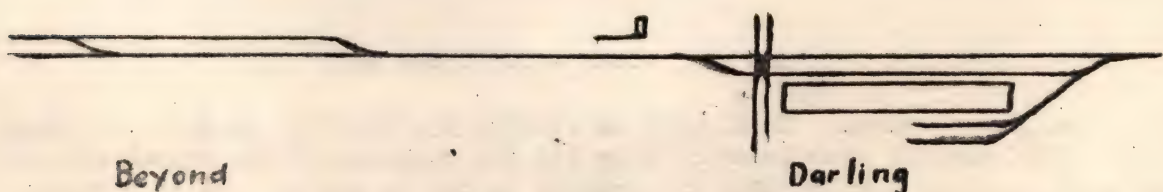


Fig 3

π 17.9.61



BRANCH REPORTS.

QUEENSLAND, JUNE - SEPTEMBER 1961

Our June meeting consisted of a 16.5 mm colour slide show, with slides Stephen Suggit had taken on his trip to Perth a few years ago and also slides from Clive McTaggart's American collection. Also of interest in July was a trip to Coolangatta and Tweed Heads arranged by the Railway Institute in which some AMRA members took part. It took the form of a rail motor outing whose purpose was to travel on the section from Southport to the Border which was scheduled to close on 1st July. It was a good day, but a long one; the train left Brisbane at 7.30 a.m. and did not return till 8.30 p.m.!

For the July meeting we had a working night on the 'O' gauge test track, and also some working on the 'HO' line. The August meeting was the annual auction, with thirty-nine lots up for sale and all but nine sold. Gordon Parker was present as auctioneer for the first part and Eric Lyon managed the second. Bidding, as usual, was slow at the start and only the magnificent encouragement, given by the auctioneer of buying the first five lots himself, got things really going! Also in August there was a film evening, run in conjunction with the A.R.H.S. in which two good films, both German, were showing. A point of interest was to see the points working where the blades move separately.

September was a busy month and featured three items. For the first Brian Marstaeller brought in his pick-up and amplifying unit and a really good Sunday morning session of train noises emerged, including "Power For the Grade" (New Zealand K and Ka Classes), "A3 Pacifics" (British Railways, Eastern Region), "Whistles in the Woods" (American lumber lines) and "Farewell to Steam" (Los Angeles division of Santa Fe's last steam trip).

The second item was an outing to Frank and Top Tytherleigh's home when sixteen members witnessed some faultless 'S' gauge running and partook of Mrs. Tytherleigh's renowned hospitality for which all present were very grateful. Also in the month there was the usual monthly meeting at the Club rooms at Countess Street. This last was reasonably well attended but only one member brought anything along for operation. What about some more models next time?
Eric Lyon.

THE 'OLD VIC' JULY - SEPTEMBER 1961

The July meeting. Once again we started the meeting at 8.0 p.m. sharp. This early start is most beneficial as all the business of the branch can normally be cleared by 8.30, when the speaker is due to begin. At this meeting

'old boys' were invited along to hear Ray Pearson talk, and as usual Ray was in good form and regaled the meeting with many stories of the problems and humorous incidents that occurred in the hobby prior to World War II. Ray brought along an almost priceless collection of models, mainly 'O' gauge, to illustrate his talk.

August. The record still holds! An 8.0 p.m. start. Items on display included Fyfe Thorpe's record of the ARHS recording 'Steam on the 5'3"'. The syllabus item was a talk by Bryan McClure, Claude Henderson and Glen Johnson, illustrated by colour slides, on a recent trip to Tasmania.

Models for display at the September meeting were about the greatest in number we have seen for many months. The syllabus item was a talk by Mr. Roy Davies of 'Moldex', who gave an interesting outline of the problems and methods used in the manufacture of 'Triang' equipment in the factory at Fairfield. Models used during the talk were the smoke unit, 'magnahesion' loco, control unit parts, and the 'Triang' motor in the various stages of assembly.

Tim Dunlop.

C.P. AT THE CROSSROADS

by "John O'Rockie"

The Canadian Pacific Railway which three generations ago made possible the settlement of Western Canada, is about to make drastic reductions to its passenger services. In a few years, transcontinental passenger trains on the railway will be only a memory.

It takes three days and three nights to travel from Halifax on the Atlantic coast to Vancouver on the Pacific Coast aboard the Canadian Pacific's crack train. But airlines have made this type of travel obsolete and increasing road travel has cut sharply into the railway's revenue on short distance runs so that the Company is asking the Government to bring in legislation to permit the closing down of uneconomic lines.

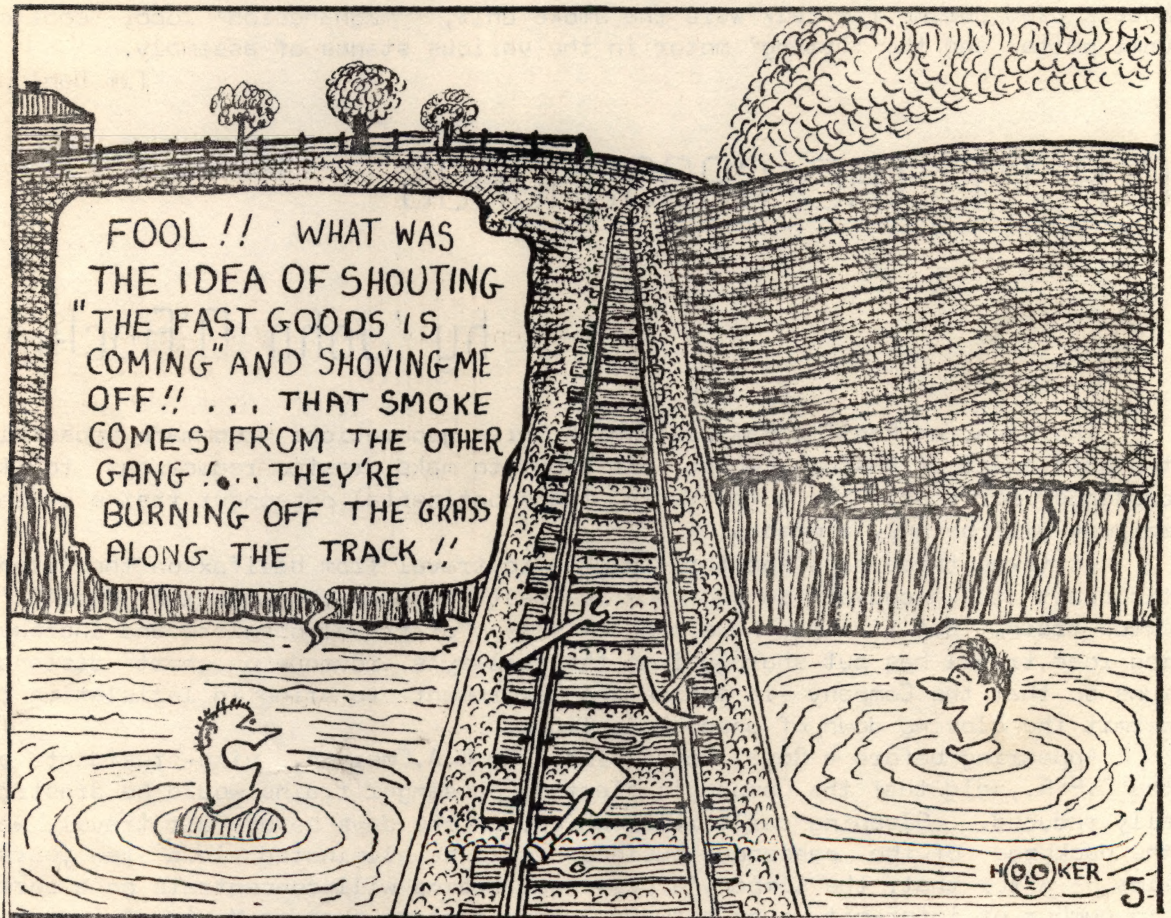
Appearing before a Royal Commission, Mr. R.A. Emerson, vice-president of the C.P.R., said that the Company's fleet of passenger trains would be drastically reduced. Sleeping car service which, in the days before air travel, was the backbone of the passenger business will be eliminated in a few years' time. After that, the Company's passenger trains will concentrate on a certain number of inter-city runs between larger centres such as Montreal-Toronto, Montreal-Quebec, Montreal-Ottawa, Toronto-Detroit, and Calgary-Edmonton.

After the Second World War, the railway fought back against air travel with improved services and easy payment plans. Credit cards offered railway passengers charge accounts for their fares, accommodation at railway hotels, telegraph, express and car rental costs. Special rates were offered for off-peak travel and group excursions. Cafeteria service was offered in addition to expensive dining car meals, and special glass-domed cars were built for the spectacular trip through the Rockies. None of this proved adequate to compete with air travel.

To help overcome its losses, it has changed over to diesel equipment and

improved its signalling and road maintenance techniques. More and more it is moving into the "pick-a-back" business in an attempt to participate in the growing use of truck transport. During 1959 it added over three hundred flat cars to its rolling stock for use in pick-a-back services.

Canadian Pacific, which operates an airline, steamships, hotels and telegraph services as well as its railway is also moving into the road transport business. The Company has been buying up small road haulage concerns in case this method of moving goods eventually makes rail freight obsolete. Thus Canadian Pacific Railway hopes to survive as an transport company, even if the transcontinental railway, which made it, ultimately disappears.



'SOUTH AFRICAN CENTENARY

One hundred years ago a two mile stretch of railway line at Durban marked the beginning of the vast organisation known to-day as the South African Railways. This system, which is the largest transport organisation on the African continent and the most extensive 3'6" gauge railway in the Southern Hemisphere now operates over 13,000 route miles of track linking all the important mining and industrial centres, ports and agricultural areas of the Union.

THE POP VALVE! FOR READER'S LETTERS



To the Editor:

For those who are interested, super detail blue prints of all V.R. rolling stock are available at the "Public Relations & Betterment Board" Railway Buildings, Spencer St., Melbourne. These prints are of high standard and the cost is approximately 5/- per print; they are to 1" = 1 foot scale, measurements being in actual feet. The V.R. drawings are very accurate and ideal to scratch-build from. I can do special drawings (price on application); drafting is my profession, and if I can be of any help please do not hesitate to write to me. I have a reasonably good knowledge of the V.R. as I am specialising in modelling it alone.

23/6/61.

G. Houghton, Nunawading, Vic.

We can obtain drawings like this from the Department in Queensland; they contain a wealth of detail and are generally too large for modelling purposes which are best served by outline drawings to a convenient modelling scale. If you would really like to help, why not sit down and make us some drawings of V.R. stock for Journal? You won't get paid for them, but you will have the satisfaction of knowing that you have struck a blow for the cause.

Editor.

To the Editor:

I would like to support Dick Gutteridge's remarks concerning "O" gauge parts supplied by the Model Dockyard ("Pop Valve" - August 1961). My only regret is that I have to use mail order instead of being able to pay a personal visit to examine their range of parts. They supply a seven page price-list of "O" gauge fittings, on receipt of a sixpenny stamp.

Recently I required journal boxes and springs for a six-wheeled N.S.W.R. loco tender. I asked for a number of axle-guards to be sent as samples, so that I could choose a suitable one for my requirements, for which I enclosed the necessary remittance. The most suitable was the C.C.W. Great Western special axle-guard, which, after a small amount of adaptation, was a very reasonable likeness to the prototype.

I would also like to recommend to members the lathe work done by Bob Lisle of Gympie. I had some N.S.W.R. type domes and funnels turned up by him and I am very pleased with his work.

9/8/61

Keith Cutler, Harden, N.S.W.

To the Editor:

I was pleased to see Arthur Harrold's article "Watch out for Trams". These small narrow gauge lines, which are now going out of existence were once quite a feature of the coast of Northern N.S.W. and Queensland. I doubt if

any of the narrow gauge timber lines are left in Northern New South Wales.

The line Arthur refers to once also ran passenger services which were catered for with several toast rack tram cars. As I remember them they ran a service to Mapleton every Friday which was actually a mixed and usually consisted of several trucks of goods with a passenger car in the rear. It travelled up to Mapleton in the morning and returned in the afternoon. The line from Nambour to Mapleton was very steep in places and this run was done by the "Shay".

During the summer a trip was made to Maroochydore every Saturday; it used to leave about midday and it was our usual practise to knock off work at midday and to race down the street to catch the tram; if you knew of anyone expected on the tram, the driver always obligingly waited for them. The tram returned late in the afternoon. On Sundays it left about 9.0 a.m. for Coolumb Beach and returned late in the evening. Specials were also run. I can plainly remember the old tram car go to Maroochydore for a dance, lit by several small hurricane lamps hanging from the ceiling.

No doubt buses and motor transport have now taken over the work done by these little lines.

16/8/61.

Broughton Boydell, Gibson, Via Kalgoorlie, W.A.

To the Editor:

I hope your layout is taking shape. You must take a photograph of it and send it to me one day.

I tried to take some photographs of my own stock recently. I used two rolls of 620 film and sixteen flash bulbs. The results? Blanks! There must be something wrong with the flash-light I borrowed and which I have returned.... Fast!!

27/8/61

Frank Puls, East Preston, Vic.



SCHEDULED NEXT ISSUE.

Surveying the material available for our next issue we have to admit that stocks are low; however our old writers have not let us down. Keith Cutler, who has already given us a fine modelling series of four-wheelers from New South Wales, now carries on with "The Four-wheeled Hoppers of the NSWGR", and Cedric Rolfe has come forward again to tell us about the "Simple Track Cleaning Car" that he has built. Also, on the constructional side, we have "A Modern Signal Cabin", an article which should appeal to the beginner as well as the expert. We have another item of fiction for you too; Jack Makin is the author and "Sabotage" is the title. So how's that for a start?